ABSTRACT OF

An Address

ON

IMMUNITY AGAINST INFECTIOUS DISEASE,

WITH SPECIAL REFERENCE TO

ANTITYPHOID INOCULATION.

Delivered before the Statistical and Social Inquiry Society of Ireland on Jan. 22nd, 1915,

BY E. J. McWEENEY, M.A., M.D. (N.U.I.), D.P.H., F.R.C.P. IREL.,

PROFESSOR OF PATHOLOGY, UNIVERSITY COLLEGE, DUBLIN.

NATURE, CAUSES, AND KINDS OF IMMUNITY.

IT is a well-known fact that second attacks of infectious diseases are, with few exceptions, rare. In withstanding the first attack the patient has acquired immunity against further onslaughts of the same disease germ. Examination of the blood of such a person, moreover, affords evidence of the presence in it of substances that exercise a deleterious influence on the germ—may, indeed, kill it. The presence of these substances in the blood of the convalescent patient is only a particular case of a general law which may be thus stated: *The entrance of foreign albuminous matter (protein) into the system evokes the production of specific antibodies.* We now call the foreign or intrusive protein "antigen." Ehrlich explains the action of the antigen by supposing that its molecules combine with the receptors or nutritive side-chains of the body cells. Should the antigen be poisonous or occupy too many of the side-chains the cell may be killed. But if it survives it reacts by producing fresh combining links or receptors, which, being discharged into the blood, constitute the antibody.

The side-chains or receptors with their supposed capacities for combining, &c., have never been seen and may possibly not exist. They have been imagined and enable us to visualise a certain concept of how immunity is brought about. That concept may not be right—may not correspond to facts in all particulars. But it certainly does so to a very large extent, and, what is very important, the theory has proved itself a genuinely heuristic one in the sense that inferences based upon it have been found justified by the test of actual experiment. Under the influence of this theory immunity has become a vast and highly specialised department of research, and has yielded practical results of the highest importance, with one of which we are this evening concerned.

With regard to antibodies there are two points deserving special notice. In the first place they are only produced when the antigen is introduced parenterally—that is, otherwise than by way of the alimentary canal. The second point is that antibodies are specific—that is, will only combine or react with the antigen that produced them.* Recovery from one disease will not protect against another. We term the poisons produced by microbes "toxins." They behave as antigens. During a non-fatal attack of an infectious disease, such as typhoid, the bacilli, consisting as they do of foreign protein, are powerfully antigenic; they stimulate the cells of the individual attacked, with the result that a crop of antibodies is produced specifically directed against the intrusive micro-organisms. Thus there are found: (1) opsonins, which lead to the ingestion and destruction of the germs by the white blood cells; (2) antitoxins, which combine with and neutralise its poisons; (3) agglutinins, which cause the bacilli to adhere together and doubtless assist in their destruction; and (4) bacteriolytic amboceptors, which focus upon the bacillus the powerful ferments contained in the blood and thus bring about its dissolution. The consequence is that the attack is foiled. The disease germ is suppressed and got rid of. The patient recovers, and for a time retains in his blood enough of the specific anti-substances to render any further attack from the same quarter impossible. Such a patient is said to be immunised or protected, but the duration of protection varies within wide limits.

Immunity may be *natural* or *acquired*. In natural immunity the man or animal is congenitally incapable of becoming infected owing to the absence from his body cells of receptors capable of combining with the germs or their toxins. Acquired immunity may be the result of (1) an accidental, involuntary attack of the disease contracted in the ordinary way, or (2) the deliberate introduction of the antigen, or the corresponding antibodies by the parenteral path; this is artificial immunity.

Artificial immunity may be (1) active, or (2) passive. Passive immunity is obtained by the introduction into the subject of antibodies ready made. The antibodies are contained in the serum of an actively immunised animal, and this "anti-serum," as it is called, is injected. This procedure has proved of remarkable service against diphtheria and tetanus. Active immunity, on the other hand, is brought about by the reactive forces of the individual himself, elicited by the entrance of the specific micro-organism. It may be induced by the introduction of the disease germ: (1) in its primitive unaltered condition; or (2) modified in various ways.

1. Artificial introduction of the germ in the living state and of full virulence is, of course, a dangerous procedure, as the attack so induced may prove fatal.

2. The following are the chief modes of modifying the virus of a disease so as to render it suitable for protective inoculation. (*a*) It may be passed through the system of a more or less insusceptible animal. This is what happens in the only kind of protective inoculation hitherto universally practised—that directed against small-pox. (*b*) The virulence of the micro-organism may be diminished by heat or antiseptics. This is called attenuating the virus. (*c*) The virus may be slowly dried outside the body. In this way Pasteur succeeded in attenuating the virulence of the unseen micro-organism of rabies and converting it into a harmless vaccine. (*d*) The disease germs may be killed by heat or antiseptics. Their dead bodies constitute the vaccine. This is the method most usually employed as against typhoid, and is consequently that which chiefly interests us practically. It has also been found to work well as against paratyphoid, cholera, plague, and dysentery. (*e*) The germ itself may be got rid of by filtration and only its products or toxins may be introduced. This plan only works when the toxins are excreted into the culture fluid, as happens in the case of diphtheria and tetanus. When the poisons remain locked up in the body of the micro-organism, as they do in the case of typhoid, this plan is not applicable. The bodies of

* The question as to the so-called "group reactions" is here passed over.

the bacilli may, however, be allowed to dissolve (undergo autolysis) or they may be pulverised at the temperature of liquid air, or they may be forced by enormous pressure to yield up their toxins, which may then be used for inoculation.

INCIDENCE OF TYPHOID ON THE GENERAL POPULATION.

Before considering the need for a new method of combating a disease, it is proper to ask ourselves how the disease has been influenced by the ordinary sanitary measures prescribed by the State or adopted by up-to-date units of sanitary administration. When we come to do this in the case of typhoid we find that there has been of late years a remarkable reduction in the incidence of that disease.

In Great Britain 20 years ago the death-rate per million from this cause was over 300; in 1912 it had fallen to 44—the lowest recorded. In Ireland there was also a fall, though not so pronounced. In 1903 the deaths numbered 480, and in 1913 289, the average for the past 10 years being 371. The rate per million dropped from 109 in 1903 to 53 in 1912, the average for the 10 years being 84. In many of our great cities the same thing has occurred. Thus in Liverpool in 1894 there were 1350 cases with 248 deaths, whilst in 1913 there were only 153 cases with 33 deaths. In Glasgow the case-rate per 100,000 was 138·6 in 1891 and the death-rate 21·8. In 1913 the former had sunk to 23·2 and the latter to 0·36. In other cities the fall is not so great. In Manchester, for example, there were in 1899 381 cases with 73 deaths, and in 1913 292 cases with 47 deaths, the death-rate per 100,000 falling during the 15 years from 13 to 6. In our own City of Dublin the cases 20 years ago numbered 813 and the deaths 104. Last year the cases had fallen to 287 and the deaths to 33. This latter figure corresponds to a death-rate of 11 per 100,000, the average for the previous 10 years being 16.

These figures afford convincing proof of the fact that under ordinary civil conditions of life, general sanitary measures, such as pure water, good methods of sewage disposal, attention to the food-supply (supervision of shell-fish, of milk), and certain specialised measures such as the discovery and isolation or cure of carrier cases, have proved effective in diminishing the prevalence of typhoid.

INCIDENCE OF TYPHOID ON TROOPS IN THE FIELD.

Experience has shown that when men are huddled together in camps or trenches or in beleaguered towns under war conditions, typhoid tends inevitably to break out amongst them and speedily becomes a regular pestilence.

Table I. sets forth the figures for typhoid in some recent campaigns.

TABLE I.[1]—*Losses caused by Typhoid in some Modern Wars.*

War.	Strength.	Typhoid cases.	Typhoid deaths.	Killed in action, died of wounds.	Died of disease.
Franco-German, 1870-71, German army.	—	73,393	6,965	28,269	15,240
Spanish-American, 1898, American army.	107,973	20,738	1,580	243	2,565
Boer War, 1899-02, British army.	380,605	57,684	8,022	7,702	13,250
Russo-Japanese, 1904-05, Russian army.	—	17,033	—	34,000	9,300

From this we see that during our war with the Boers we suffered greater losses from typhoid bacilli than from the bullets of the enemy. The reason for the terrible ravages of this disease during war time is the greater difficulty there is in disposing of the germ-laden excretions of the human body under the conditions then prevailing. Typhoid in military encampments is not, as a rule, water-borne. The specific germs are introduced by mild, undiagnosed cases, and by germ carriers. The latrines and trenches thus become infected and the bacilli are widely spread through the agency of "the three F's—Food, Flies, and Fingers"—so that all are brought in contact with the germs of the disease, and all that are susceptible take it.

HISTORY OF PROTECTIVE INOCULATION—AND ITS RESULTS.

For such exceptional conditions as those just referred to exceptional measures are obviously called for. It is to the labours of our gifted fellow-countryman Sir Almroth Wright that we are indebted for the introduction of a method that has now proved itself to be an effective weapon against the spread of typhoid. In his praiseworthy endeavours Wright has been most ably seconded by Colonel Sir W. B. Leishman, R.A.M.C., whose untiring industry has placed the procedure on a sound basis of experiment and observation, and thus powerfully contributed to its now well-nigh universal adoption in the armies of all the leading countries.

Wright's first steps in this matter were taken so far back as 1896, and are recorded in a paper[2] which was concerned with a totally different subject. In this paper he speaks of two men and an animal (horse) as having received inoculations of dead typhoid bacilli. Early in the following year[3] he describes the changes in the blood of 17 persons similarly inoculated. Meanwhile it is only fair to state the subject was being energetically worked at in Germany by Pfeiffer and Kolle, who published[4] an account of their systematically conducted experiments a few months before Wright's first paper appeared. Wright's work was, however, quite independent of theirs, and the development of the method in this country under Wright and Leishman was quite original and not in any way due to German influence.

In 1898 Wright inoculated 4000 men of the Indian army.[5] Shortly afterwards came the first application of the new method in civil life, at the Barming Asylum, where there was a serious outbreak of typhoid, and 100 of the attendants were inoculated, not one of whom contracted the disease.[6]

As early as 1900 the method, still in its infancy, was tried here in Dublin at the Richmond Asylum, which was at that time suffering from a severe visitation of typhoid. At the instance of the late Dr. Conolly Norman, Professor Wright was invited to make a trial of his method, and the work of carrying out the inoculations was intrusted to the assistant medical officer, the late Dr. Henry M. Cullinan.[7]

Among the uninoculated, 114 in number (all nurses), there were 17 cases with 4 deaths. Among the inoculated, 500 in number (all patients), there were 7 cases with one death. Of the 7 cases, 3 were already infected at the time of inoculation, and must be left out of account. The case incidence per cent. was therefore 14·9 among the uninoculated, as compared with 0·8 among the inoculated, and the death-rate 3·5 as compared with 0·2. Only one inoculation was given and the reactions were severe, necessitating the patients staying in bed for three or four days.

The Boer War of 1899–02 afforded the first opportunity of testing the new method on a really large scale. Its use was sanctioned by the War Office but was left optional with the individual. Some 400,000

doses were sent out by Wright and Leishman, but it is believed that only about 100,000 men received one or more. Some were inoculated on the way out, some on arrival, many did not receive more than one dose, and the statistical results are incomplete. I reproduce Wright's figures.

TABLE II.—*South African War, British Troops.**

—	Number.	Cases.	Rate per 1000.	Deaths.	Rate per 1000.
Inoculated ...	19,069	226	11·84	39	2·04
Not inoculated...	150,231	3,739	24·88	(?)	(?)

TABLE III.—*Results at Ladysmith and Modder River.*

—	Number.	Morbidity.	Mortality.
Ladysmith—			
Inoculated	1,705	35 = 2·05%	8 = 0·47%
Not inoculated	10,529	1489 = 14·14%	329 = 3·13%
Modder River—			
Inoculated	2,335	26 = 1·11%	(?)
Not inoculated	10,981	257 = 2·34%	(?)

* These tables are taken from Russell, *loc. cit.*, the original publication not being available.

It will be noted that Wright claims to have diminished the case incidence by more than one-half and the mortality in still greater proportion. I feel certain that the method did not on this occasion obtain a fair trial. The unpleasant fact remains that out of a total strength of about 381,000 there were during that campaign nearly 58,000 cases of typhoid with over 8000 deaths. Some observers reported favourably of the method, such as Tooth,[8] Marsden,[9] Boyd,[10] Osborn,[11] and Cayley.[12] But others were not able to agree as to its value (Elliot and Washbourn,[13] and Melville[14]), whilst yet others[15] went so far as to assert that the number of cases and deaths was increased by the inoculation. The *ad interim* verdict at the time was "not proven." The War Office suspended the practice for the time being, and appointed a Commission to report upon it. This Commission, which was presided over by Dr. C. J. Martin, F.R.S., entrusted the experimental part of the work to Sir W. B. Leishman.

By direction of the Commission inoculations were again taken up amongst the personnel of a number of selected units serving abroad, chiefly in India. The procedure was carried through in the most thoroughgoing and systematic manner. Careful attention was paid to the incidence of typhoid upon the units under observation, the most modern methods of diagnosis being employed by medical officers specially trained for the purpose. I reproduce the main results as reported by Sir William Leishman to the International Medical Congress held in London in August, 1913.[16] The observations were made on 24 selected test units. The period covered extended from December, 1904, to June, 1909.

TABLE IV.—*Results of Antityphoid Inoculation among Troops on Foreign Service (Leishman).*

—	Total strength.	Cases.	Rate per 1000.	Deaths.	Rate per 1000.	Case mortality.
Not inoculated ...	8,936	272	30·4	46	5·14	16·9%
Inoculated	10,378	56	5·4	5	0·47	8·9%

In another table Leishman sets forth the typhoid incidence and mortality in India for the past 23 years, but it will suffice to confine our attention to the last 11 years, beginning in 1902 and ending in 1912.

TABLE V.—*Typhoid Fever in India from 1902 to 1912 (Leishman).*

Year.	Admissions.	Deaths.	Admissions per 1000 of strength.	Case mortality per cent.
1902... ...	1012	260	16·7	25·69
1903... ...	1366	292	19·6	21·38
1904... ...	1384	265	19·7	19·15
1905... ...	1146	213	16·1	18·59
1906... ...	1095	224	15·6	20·46
1907... ...	910	192	13·1	21·10
1908... ...	998	191	14·6	19·14
1909... ...	616	112	8·0	18·18
1910... ...	296	45	4·1	15·20
1911... ...	170	22	2·3	12·9
*1912... ...	118	26	1·7	19·0

* Since writing the above a statement has appeared to the effect that in 1913 the deaths from typhoid in our Indian army were reduced to 3.

Now, the practice of inoculation was re-introduced in the year 1905, but it was not until 1909 that the number of men inoculated was large enough to influence the general statistics. "From that year," says Leishman, "there has been a steady and very remarkable decline, the figures for each successive year constituting a fresh low record, until in 1912 we find that there have been only 118 cases in the whole of the British Army in India—a gratifying contrast to the large figures recorded in the past." (In 1897 there were 2050 and in the following year 2375 cases.) Leishman then proceeds to disclaim the view that this great diminution is exclusively attributable to the inoculations. "Improvements," he says, "in general sanitation, improved methods of diagnosis, the detection and isolation of 'carriers,' have undoubtedly all played a part; but my strong personal conviction, shared, I am glad to know, by many of my brother officers, is that the reduction is in the main due to the extended employment of anti-typhoid vaccine."

History of the Method in America.

The remarkable results that have been achieved in the American army by the use of the method are mainly due to the energy and perseverance of Major F. F. Russell, M.D., Professor of Bacteriology in the United States Army Medical School, Washington, who has recorded his experiences in a valuable paper.[1] The fearful havoc wrought by typhoid among the American troops during the war with Spain called imperatively for active measures, and in 1908 Major Russell was directed by his chief, Surgeon-General O'Reilly, to proceed to Europe and familiarise himself with the technique of the preparation of the vaccine. Russell accordingly betook himself to London, where he worked under Leishman and his assistants, and brought home the necessary experience and the special strain of typhoid (Rawlings) used in the preparation of the British army vaccine. The following year Russell began by inoculating his own laboratory staff. The news spread, and practically all the medical officers in and about Washington volunteered and sent their wives, children, friends, and servants. Then the corps of hospital attendants came in, and by the end of 1909 there had been vaccinated

1887 persons. The following year 16,073 people were done. During 1911 the influx of volunteers still continued, and the authorities, fortified by the experience of 20,000 vaccinations without a mishap, felt justified in making it compulsory upon all that were to participate in the manœuvres on the Mexican frontier. The order was issued in March, 1911. The results achieved fully justified the step taken. Major Russell refers to the three divisional camps near the border, each camp being in full occupation for four months. At the Galveston (Texas) Camp there were 4500 men, at San Diego (California) 3000, and at San Antonio 13,000. At Galveston, though there were 102 cases of typhoid amongst the civil population (with whom the soldiers mixed freely), *there were no cases amongst the troops*. From San Diego only two cases were reported, one of which was doubtful. Major Russell draws an interesting comparison between the experience at the San Antonio camp in 1911 and that at Jacksonville (Florida) in 1898. These two camps, each of approximately equal size, were maintained for the same length of time. They were situated in the same latitude, and each had artesian well water of excellent quality. Yet in 1898 there were over 2500 cases of typhoid at Jacksonville, with 248 deaths, on a strength of 10,759 men, while at San Antonio in 1911, on a strength of 12,801 men, there were only two cases with no fatality.

Nor was the possibility of infection lacking, for during the duration of the camp there were 47 cases of typhoid with 19 deaths reported among the civil population, with whom the military freely mixed. Every allowance being made for improved sanitary measures and the fact that the 1898 camp was in war time, whilst peace prevailed in 1911, the result must be looked upon as the signal evidence of the power of inoculation to save encamped troops from this disease.

The next step in the American campaign against typhoid was the extension of the vaccination order to all recruits. This was done on June 7th, 1911. Vaccination against small-pox is carried out at the same time.

"If the vaccinia be severe," says Major Russell, "the second dose of typhoid-prophylactic is postponed a few days, but in no other way has it been found necessary to deviate from this routine of simultaneous vaccination against the two diseases. The two vaccinations are completed by the time the man has been 20 days in the service. Revaccination against both diseases is carried out, according to the present regulations at the beginning of each four-year period of enlistment. This is not because the immunity has by that time disappeared, for its duration is not yet known. It, no doubt, diminishes gradually, as is the case with that from small-pox, yet in the service it is desirable to maintain the army in a maximum state of protection against infection at all times, and it does not seem advisable to omit vaccination until an outbreak of typhoid shows the disappearance of all immunity. Small-pox has been almost entirely suppressed; there were only five cases among the American troops in 1911, with no fatalities, and typhoid has ceased to be the scourge of former times."

I have thought it well to quote this passage from Major Russell's paper in view of its applicability to the situation created in our armies by the present war. I am clearly of opinion that only by making the inoculation compulsory shall we be able to get the best results from it, and I venture to express the hope that our military authorities, uninfluenced by the protests of "faddists," may before long see their way to follow in the footsteps of the Americans.

On Sept. 30th, 1911, compulsory prophylaxis was extended to all persons in the American army under 45. The results are set forth in the tables which I reproduce:—

TABLE VI.—*Typhoid Fever (United States) among Enlisted American Troops. (Russell.)*

Year.	Mean strength.	Cases.	Deaths.	Cases per 1000.	Deaths per 1000.
1901	26,515	250	17	9·43	0·64
1902	39,736	341	34	8·58	0·86
1903	42,264	246	12	5·82	0·28
1904	43,940	247	12	5·62	0·27
1905	42,834	153	13	3·57	0·30
1906	40,621	230	12	5·66	0·28
1907	35,132	124	7	3·53	0·19
1908	46,316	136	11	2·94	0·23
1909	57,124	173	16	3·03	0·28
1910	55,680	129	9	2·32	0·16
1911	55,240	44	6	0·80	0·11
1912	58,119	15	2	0·26	0·03

TABLE VII.—*Showing the Number and Proportion of Typhoid Fever Cases contracted before Enlistment and among the Protected Officers and Enlisted Men (United States proper only). (Russell.)*

Year.	Total Cases.	Total deaths.	Infected prior to enlistment.	Among the vaccinated.	
				Cases.	Deaths.
1909	173	16	(?)	1	—
1910	129	9	(?)	4	—
1911	44	6	(?)	7	—
1912	18	3	5	6	—

TABLE VIII.—*Typhoid Fever, 1901 to 1912, for the Whole Army, Officers and Men, at Home and Abroad. (Russell.)*

Year.	Mean strength.	Cases.		Deaths.		Occurring among the vaccinated.	
		Number.	Ratio per 1000.	Number.	Rate per 1000.	Cases.	Deaths.
1901	81,885	552	6·74	74	0·88	—	—
1902	80,778	565	6·74	69	0·85	—	—
1903	67,643	348	5·14	30	0·44	—	—
1904	67,311	293	4·35	23	0·33	—	—
1905	65,688	206	3·14	20	0·30	—	—
1906	65,159	373	5·72	18	0·27	—	—
1907	62,523	237	3·79	19	0·30	—	—
1908	74,692	239	3·20	24	0·31	—	—
1909	84,077	282	3·35	22	0·26	1	0
1910	81,434	198	2·43	14	0·17	7	0
1911	82,802	70	0·85	8	0·10	11	1
1912	88,478	27	0·31	4	0·044	8	0

From Table VI. it will be gathered that the case-rate per 1000, which was 3·03 in 1909 and 2·32 in 1910, fell in 1911, coincidently with the wide-spread adoption of vaccination in that year, to 0·80, and in 1912, the first year it was compulsory, to 0·26. Remarkable as are these results, they are surpassed by those of 1913, for the first nine months of which figures were available. The following table shows the monthly case incidence for the past six years.

During the period in question there was no change of importance in the general sanitary administration, and nothing to account for the disappearance

TABLE IX.—*Monthly Incidence of Typhoid amongst United States Officers and Men.* (*Russell.*)

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for 9 months.
Voluntary—													
1908	5	6	4	2	3	11	14	31	25	26	12	8	101
1909	4	10	6	4	11	15	26	14	16	45	20	6	106
1910	8	11	1	4	2	6	12	27	21	16	20	11	92
1911	3	3	3	7	4	4	4	7	4	4	1	0	39
Compulsory—													
1912	1	2	2	0	0	3	1	3	1	4	0	1	13
*1913	0	0	0	0	0	0	0	0	0	—	—	—	0

* Only one case occurred during the last quarter of 1913.

of typhoid save the introduction of prophylaxis by inoculation. This result must surely claim attention as a remarkable example of the annihilation of disease by the weapons which bacteriological research has placed in our hands.

Professor McWeeney then gave brief summaries of the successful results accomplished by means of antityphoid inoculation in other countries, and concluded his address with an account of the reaction caused by inoculation and a statement of the various classes of the population which should be inoculated.

[During the discussion on the above paper figures taken from the Report of the Army Sanitary Committee on the Prevalence of Typhoid in the British Expeditionary Force during the present war were given by one of the speakers to the following effect. The total cases numbered 212, of whom 22 died. Of the 212 cases, *173, or 81·5 per cent., and all the deaths occurred amongst the uninoculated.* Of the 39 inoculated cases, 28 occurred amongst those who had received only one dose or who had been inoculated more than two years ago, whilst only 11 occurred amongst those regarded as fully protected. These results, convincing as they are, would be still more so did we but know the actual numbers of the two classes, inoculated and uninoculated. It would then be seen that the vast majority of the cases (81·5 per cent.) occurred amongst the comparatively few uninoculated men.]

Bibliography.—1. Russell: American Journal of the Medical Sciences, vol. cxlvi., 1913, p. 817. 2. Wright: On the Association of Serous Hæmorrhages with Conditions of Defective Blood-coagulability, THE LANCET, 1896, vol. ii., p. 807. 3. Brit. Med. Jour., 1897, vol. i., p. 807. 4. Deutsche Medicinische Wochenschrift, 1896, p. 735. 5. THE LANCET, 1902, vol. ii., p. 654. 6. Leishman: Harben Lecture, Journal of State Medicine, September, 1910. 7. Dublin Journal of Medical Science, July, 1901. 8. Reference in Deutsche Medicinische Wochenschrift, 1901, No. 17. 9. THE LANCET, 1900, vol. ii. 10. Scottish Medical and Surgical Journal, 1901. 11. THE LANCET, 1900, vol. i. 12. Cayley: Brit. Med. Jour., No. 2089. 13. Medical Society of London, Oct. 28th, 1901. 14. Brit. Med. Jour., 1901, vol. i. 15. Crombie: THE LANCET, 1902, vol. i., p. 1241, and 1902, vol. ii., p. 426. 16. Journal of the R.A.M.C., April, 1914.

ROYAL INSTITUTION.—At a general meeting held on Feb. 1st, the Duke of Northumberland, K.G., President, in the chair, the special thanks of the members were returned to Dr. H. D. Rolleston for his generous gift, in the name of Miss Davy (niece of Sir Humphry Davy), of a bust of Sir Humphry Davy. The bust, as reported in our last issue, was presented to the institution on behalf of Dr. Rolleston by Sir James Dewar on Jan. 22nd.

EMBALMMENT OF SEPTIC WOUNDS

IN CASES OF GRAVE DISORGANISATION OF LIMBS CAUSED BY RIFLE OR SHRAPNEL BULLETS OR SHELL FRAGMENTS.

BY DR. LOUIS MENCIÈRE,

OF RHEIMS; MEDÉCIN-CHEF TO THE HOSPITAL OF THE COMPASSION AT COMPIEGNE; CONSULTING SURGEON FOR THE CENTRE.

(*Translated for* THE LANCET.)

FIVE months of war spent as an operating surgeon in our hospitals at the front and at the base and 20 years of surgery, for the most part that of the bones and joints, embolden me to offer my opinion as to the best way of setting about the treatment of extensive damage to the limbs. I therefore bring forward this note on a proceeding and a formula which imply a radical change in the course of gunshot wounds, of which it is desirable that our comrades of the British army should be able to avail themselves.

If it were possible on the battlefield (which it is not) the preservation of a limb would depend entirely upon the primary cleansing of the wound and on the first dressing. I shall not easily forget how a good friend of mine, a *directeur d'école* at Rheims, while out shooting received the contents of both barrels of a fowling-piece in his foot at point-blank range. The bones were smashed, the torn foot was attached to the leg only by a strip of skin, &c., on its inner side, but the chief nerves and vessels escaped. The wound was swabbed out immediately with some alcohol, such as is used for spirit lamps, and which I found in a farmhouse. That evening the patient was taken to my hospital. A careful wound toilet was performed, all fragments of boot, gun-wads, &c., being removed, and the tendons and some of the soft parts were sutured. The foot was preserved in good shape and with good movement. This result was entirely owing to the immediate treatment of a part which was literally smashed, and to the subsequent complete and thorough attention which could be given in specially favourable conditions.

Are such conditions possible on the battlefield? No, absolutely No! Want of space, of skilled help, of facilities of all sorts, and the necessity of rapid evacuation are such that our wounded arrive at the ambulance or the field hospital in conditions very different from those of the case which I have mentioned. Let us consider the state of things existing at the front, for there is one surgery of the front and another of the base; and when the time comes for discussion of these matters I would advise those who have been operating near the fighting line to discuss things among themselves, and those who have been operating in the rear only to speak of what they have seen. Everyone would be the gainer.

We are considering then the surgery of the front. First of all, there is the question of seasons. Wounds in winter are not quite the same as those in summer, for the germ of sepsis is capricious and needs favourable climatic conditions for its development. When the ground is cold its virulence is diminished. Thus, in the hospital in which I operate gas gangrene, which was truly appalling in its frequency and the rapidity of its course in the beginning of the campaign, has almost disappeared in this winter season. But when gas gangrene appears I say without hesitation, however slight it seems, if only you feel that your antiseptics,

including hydrogen peroxide, are becoming ineffective, amputate—amputate without hesitation; it is the sole remedy that will save the patient's life. Select the site of amputation, do not mutilate too much, for even in tissues already indurated (*marbré*), after readjustment of the stump if needed, you will succeed. Embalm the stump, as will be described later, not with the view of preventing gangrene, but to prevent ordinary septicæmia, which lies in wait for the stump and would lead to its dissolution. In other cases, in which it is not a question of gas gangrene but of an ill-defined, subacute septicæmia, if after embalming the general condition remains bad, if the complexion is earthy, the pulse small and rapid, the respiration—above all, the respiration—rapid and difficult, the temperature raised; if, in one word, the patient is threatened with death from septicæmia, amputate again.

Note that I give this advice, although by profession I am in the habit of preaching conservatism *à outrance* in the ordinary circumstances of surgery, even when severely crushed limbs are in question. With these reservations it does not follow that conservative surgery must be—as it is with our adversaries—considered a Utopia. Nor does it follow, as we seem to have thought at first, that it is an easy thing and simple and regular in practice.

For 20 years I have seen wounds of the limbs of all kinds and from all causes, but never have I seen wounds take the course that they do in the run-down patients living under the present conditions. I consider that a few aseptic or antiseptic washings and dressings will not suffice, although they may be enough in other circumstances to preserve the limb. At the outset one thing is gained: the knowledge that it is absolutely necessary that asepsis shall give place to antisepsis—to antisepsis *à outrance*. Let us do homage to the immortal Lister and to our great Championnière! I yet remember what the latter told me at the Congress in London in 1913: "In 1870 I took a great deal of trouble to get a barrel of carbolic acid placed in an ambulance wagon. I saw the barrel again after the campaign. Its contents were intact!" Fortunately, it is no more thus, and we know that surgeons used to abdominal operations are now abandoning the prejudices born of the necessities of their usual work—for the peritoneum is not tolerant of antiseptics—to return to antiseptics when it is a question of the surgery of the limbs. Bone, joint, and muscle, and even tendon surgery is not possible without antiseptics—how many tendon-transfers, arthrotomies, or resections have been done in vain because the surgeon has been satisfied with cleanliness instead of antisepsis. I spent a month in a hospital in the rear, where, for reasons not necessary to state, antisepsis was nearly impossible—a hospital in course of formation, operators not very enthusiastic, difficulties of supply, asepsis almost exclusively employed in operations and dressings, at most a few washings with permanganate. The results were deplorable, heartrending, upsetting all my recollections and all that I knew and had seen of the surgery of the limbs.

When I was called to the head of a surgical centre in a unit where I could dispose of powerful antiseptics I found once more the conservative surgery to which I was accustomed. Except for the cases of gas gangrene and acute septicæmia I was able as in time of peace to preserve a smashed limb, an elbow, a humerus broken up in the midst of an intricate and septic wound, or a fracture of the thigh complicated by comminution and septic wounds. In a word, without trying to be conservative always, I am able to preserve the limb often or almost always. That, as it seems to me, is in the circumstances something appreciable, which everyone can obtain if he likes, if he will believe it.

Antisepsis, then, dominates all this war surgery. I do not believe that it can be applied on the battlefield. Later, when the subject is discussed I shall demand many motor-cars, abundant means of transport, not to move the wounded far into the interior, where necessarily they would arrive in a miserable condition, but to take them 20 or 25 miles from the firing line, where in well-established units one could make as good a job of it as we do here.

The wounded man arrives, let us say, with a septic, intricate wound, with the bone splintered. The treatment must be economical of tissues, atypical operation, removal of loose splinters and of sharp edges likely to wound vessels; cleansing of the wound, above all multiple incisions well placed; drainage of the wound, successive lavage with the three antiseptics—sublimate 1 in 1000, carbolic acid 1 in 40, and peroxide of hydrogen 1 in 3. Why these three antiseptics? Because all germs, spores, and microbes, whether anaerobic or aerobic, are not equally sensitive to the three. For the wound holds all sorts of undesirables, and one must give it what it wants for each. Each of the three antiseptics is particularly adapted to a peculiar microbial variety. Successive lavage of the wound with the three antiseptics, such is the first antiseptic dressing, which acts not only antiseptically, but in a mechanical manner in drawing out pus and all sorts of débris.

There remains the permanent dressing; in our practice it holds a place apart, because I do not hesitate to state that it changes the aspect and the course of wounds, and that it is the best aid to conservative surgery that I have been able to find after trying everything. Iodoform, dear to the old-fashioned, associated with guaiacol, eucalyptus, and balsam of Peru, forms an application which changes the course of healing of the wounds, often of the most septic, and gives unlooked-for results. Hospital gangrene, atonic sanious wounds disappear to give place to a wound which is bright carmine-red, with fleshy, well-nourished granulations, a wound no longer septic, but accompanied by healing, which has sometimes seemed to me extremely rapid. Such was the case of a rifleman, who had a hideous, infected wound of the calf with all the muscles hanging as if detached by a rake. I showed this patient at an inspection in the state described, and I showed him again three weeks later with a calf of normal form and almost completely cicatrised. A Zouave, whose forearm was saved, when amputation had seemed at first the only possible course is an instance in point; another Zouave, who was brought in with a deep intricate shrapnel wound of the shoulder, the bone smashed and draining badly, occurs to my mind, his wound changing appearance fast and becoming covered with healthy red granulations, a patient whom I could evacuate quickly. These wounds, had they been in my other unit, where antisepsis was practised badly or not at all, would not have healed and after operation would have remained unhealed.

This is what is beyond my personal experience acquired at my clinique of orthopædic surgery at

Rheims, this is what five months of war have taught me and what it is my duty to impart to others. The following is the treatment recommended: Successive washings of the wound with the three antiseptics after atypical operations when, as often, necessary. Embalmment of the wound (permanent dressing) with gauze wicks soaked in the solution, the formula of which will be found below. For three or four days wash again with the three antiseptics, after which, remembering the susceptibility of the cells, only wash with hydrogen peroxide 1 in 3 or 1 in 4, and again embalm. Repeat the dressing daily. It is a mistake to advise that the dressings should not be removed. A wound which is closing up necessitates an intense phagocytosis, an irruption of white cells which clog the wound and which form a liquid which it is always best to evacuate in order to avoid resorption. It is for this reason, too, that you must not close the wounds, but drain them freely with glass drains if, more lucky than I, you can get them. Embalmment of wounds thus, following the formula given further on, is a powerful antiseptic deadly to microbes but sparing the cells, calling forth the phagocytes and constituting a stimulant to the wound. It is the means which has succeeded best with me after having tried nearly everything—formol, salicylic acid, tincture of iodine, and iodine vapour itself. I do not decry tincture of iodine employed for a first dressing, but this method cannot be repeated, for if it kills the microbes it also causes necrosis of cells and leaves a surface which is an excellent culture medium, but not a good defence. This is my formula (A):—

Iodoform	10 grammes.
Guaiacol	10 ,,
Eucalyptol	10 ,,
Balsam of Peru	30 ,,
Ether	100 ,,

—used to soak the wicks of gauze or to be injected into the sinuses with a Roux's syringe. If you lack hydrogen peroxide, or if you are simply prodigal, you will do well with solution B for washing the wound before embalmment, which differs from A only in the quantity of ether, which is 1000 instead of the 100 of solution A. In case of idiosyncrasy or intolerance after a few days' treatment (which is exceptional) omit the iodoform from the formula. This is the "secret formula" with which my fellow workers have good-naturedly twitted me, knowing well, however, that I impart it freely to everyone who will do me the honour to employ it. This is the embalmment formula, not of the Pharaohs, but simply that of your Rheims colleague.

DONATIONS AND BEQUESTS.—By the will of the late Mrs. Mary Ann Haines Timmins, of Moseley, near Birmingham, the testatrix left £1000 to the Birmingham University and a similar amount to the Birmingham District Nursing Society, £100 to her medical attendant, and £100 each to the Relief Fund of the Birmingham General Dispensary, the Children's Hospital, Birmingham, the Birmingham and Midland Ear and Throat Hospital, the General Hospital, Birmingham, the Queen's Hospital, Birmingham, and the Birmingham and Midland Eye Hospital.—By the will of the late Mr. William Prenton, of Liverpool, the Stanley Hospital, the Royal Infirmary, the Cancer and Skin Hospital, the Eye and Ear Hospital, the Northern Hospital, and the Southern Hospital of that city will receive £500 each.—St. Bartholomew's Hospital will benefit by £4500 and a quantity of Metropolitan Consolidated Stock under the will of the late Mr. Ernest Baker. From the Merchant Taylors' Company the same hospital has received £500, being the second half of a grant made in 1913.

THE PREVENTION OF FROST-BITES.

BY SHERIDAN DELÉPINE, M.B., C.M. EDIN., M.SC.,
PROFESSOR OF PUBLIC HEALTH AND BACTERIOLOGY, UNIVERSITY OF MANCHESTER, ETC.

FROM the accounts in the papers, both medical and lay, it is clear that our soldiers have suffered much from the effects of wet and cold since the beginning of the winter in Belgium and Northern France. It has probably occurred to many people that if these men could have been provided with waterproof coverings for their feet and legs they would have been saved from much suffering and from various sources of incapacity. It seemed, however, hopeless to suggest that they should be supplied with fishing boots or stockings, the cost of which is quite prohibitive. For some time I have been engaged trying to ascertain whether there was in the market any waterproof material thin enough to be worn between stocking and boot and cheap enough to meet the financial requirements of the case. Fabrics rendered waterproof with indiarubber seemed too costly, and I came to the conclusion that oxidised linseed oil was the most promising waterproofing agent for the purpose in view. Oiled silk appeared to have the properties needed except elasticity, but experience showed me that a straight bag of silk, rendered waterproof with heated linseed oil mixed with a suitable proportion of a drier, was so thin and pliable that it could be easily drawn over a *thick* stocking, and protected against wear and tear by a second stocking drawn over it after it had been adapted to the shape of the foot and leg by simply twisting it. Owing to the thinness, softness, and pliability of the material the foot covered with it can be introduced into the boot without difficulty, and it is possible to walk for several hours with the feet protected in this way without the oil-silk bag being felt at all. At first I experienced some delays in obtaining a completely waterproof oil-silk bag of suitable shape owing to the difficulty of making strong and waterproof seams. I had just obtained satisfactory results at a very small cost (less than 2s. for two leg bags) when I read in this day's issue of the *Times* (Jan. 26th, p. 7) an article on "Wader Stockings," which revealed to me the fact that Mr. F. B. Behr had had the same idea, and that a serviceable article, in all probability, more elegant and better made than my bag, was already available and had actually been adopted by the army.

As the object which I had in view had thus been fulfilled there would have been no purpose in my writing about this matter had I not carried out some experiments which indicated to what an extent thin waterproof bags can protect the feet and legs against the effects of immersion in ice-cold water. These experiments were conducted as follows. The bulbs of two bomb recording thermometers were fixed to the skin of the foot and ankle immediately behind and below the external malleolus. The bulb was firmly placed against the skin and covered externally with a layer of indiarubber plaster to prevent the free access of air or water. About one-third of the surface of each bulb was in close contact with the skin. To maintain contact the ankle was bandaged. One foot was then covered with two thin woollen socks; the other foot, after being covered in the same way, was inserted into one of my oil-silk bags. To permit free and *equal* access of

cold water to the stockings covering the two feet, boots were not put on, but, as I have previously explained, they could have been worn comfortably. After an interval the temperature of the skin under those conditions was recorded. The two feet were then plunged into 9 to 10 inches of cold water without disturbance of the recording apparatus. Ice was then gradually added to the water until the temperature was reduced to + 6° C. in one experiment and − 1° in another experiment. Some salt was also added in this case. In a third experiment only the protected foot was placed in the water to which ice and salt had been added until the temperature had been reduced to from − 2° C. to − 4°. The results obtained may be summarised as follows:—

Experiment 1, with Oiled Bag (some water penetrated through a pinhole).

Stages.	Intervals of time.	Indicated temperature in °C. at the end of each interval. Foot protected.	Foot unprotected.	Water.	Air.
A. Thermometer fixed to skin	20 min.	23°	24°	—	12°
B. Oiled bag placed over one foot ...	20 ,,	26°+	26°	—	,,
C. Both feet placed in water	7 ,,	26°	26°	20°	,,
D. Plain ice added to the water ...	45 ,,	24°	12°	6°	,,

Total duration of experiment, 92 minutes.

Experiment 2, with Cloth Bag water-proofed with Indiarubber (some water accidentally penetrated into the bag).

A. Thermometer fixed to the skin exactly as in the previous experiment. Feet warm	30 min.	26°	26°	—	11°
B. Mackintosh bag placed over one foot	7 ,,	26°+	26°	—	,,
C. Both feet placed in water	15 ,,	26°+	22°	20°	,,
D. Ice and salt added to water ...	30 ,,	20°	7°	0° to −1°	,,

Total duration of experiment, 82 minutes.

Experiment 3, with Foot Placed in Oiled-silk Bag.

Foot feeling cold before being placed in bag	15 min.	24°	—	—	12°
Foot placed in water	5 ,,	24½°	—	10°	,,
Ice and salt added to water. Foot motionless	5 ,,	24°	—	4°	11°
Foot moving within bag	7 ,,	24½°	—	3°	,,
More ice and salt added	7 ,,	24°	—	−2°	,,
,, ,, ,, ...	30 ,,	23° to 24½°	—	−2° to −4°	,,

Total duration of experiment, 69 minutes.

Experiment 1.—When the feet were removed from the iced water the protected foot felt a little colder than normal but quite comfortable. The unprotected foot felt numb. The skin was very pale and felt very cold to the touch; movements were difficult.

Experiment 2.—On removal from the iced water the protected foot felt cold, but quite comfortable. The unprotected foot felt very numb; movements of toes were very difficult and accompanied by cramps.

Experiment 3.—When the foot was removed it felt quite comfortable.

During the experiments the protected foot felt slightly cold when motionless, but not uncomfortable. Movements of toes were generally followed by a slight rise of the skin temperature.

From these short, incomplete, and imperfect experiments which I conducted upon myself it is clear that the wader-stocking or the waterproof bags, such as I have described, may reasonably be expected to have a protecting influence, and that their use will in all probability be attended with a diminution in the frequency of frost-bites. The same waterproof material may, if thought desirable, be also used for protecting other parts of the body.

Manchester, January 26th.

RADIUM AND ITS EFFICACY IN CANCER OF THE VULVA.

BY SIR THOMAS OLIVER, M.D. GLASG., F.R.C.P. LOND.,
PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

RADIUM is still on its trial. For this reason any case in which it has been tried and has been of signal service ought to be published. It is in inoperable cases of malignant disease where removal of the growth by the knife is impossible, or if attempted is likely to leave the patient worse than before the operation, that the application of radium is worthy of the attention of members of the medical profession.

A widow, aged 62, mother of a grown-up family, consulted me nearly a year ago on account of a hard nodule in the lower part of the left side of the vulva and extending upwards underneath the mucous membrane of the vagina. The growth was hard and circumscribed and was about the size of a walnut. It had come without pain; it had been in existence for a few months and had gradually reached the size mentioned. The glands in the groin were not affected. There was at this time no vaginal discharge, neither was there any bladder or rectal trouble. The patient was losing flesh and was becoming anæmic. Regarding the growth as of a malignant nature and calling for extirpation, the patient was seen in consultation by a surgeon, who, taking the same view of the character of the tumour as myself, recommended its removal by the knife. In due course this was done, the surgeon cutting well wide of the growth and deeply into the tissues. The cavity was packed with gauze and the opportunity given for it to heal by granulation. Microscopical examination of the growth showed it to be carcinoma.

Although the growth was successfully removed, the wound never healed properly. It kept discharging pus, notwithstanding frequent surgical dressing. The patient left the private hospital five weeks after the operation, but although the cavity had become considerably occluded there remained an open track from which thin pus kept oozing, and as the weeks passed a small ill-defined area of hardness could be felt in the depth of the tissues at the site of the operation. At first I hoped that this might be cicatricial tissue of a purely reactionary and inflammatory nature. As time proceeded the area of ill-defined hardness became larger until it reached the size of the original growth, with a line of dense resisting tissue extending up under the mucous membrane of the vagina and also backwards and downwards, invading the septum between the vagina and rectum. The case was one of recurrent malignant disease and calling for treatment, since the patient was losing control of the bladder and defæcation had become painful and difficult. Pain was now a feature of the case. The patient's nights were sleepless; she was losing flesh and colour. The glands in the groin remained unaffected. The other internal organs of the body were healthy.

A surgical consultation was again held and an operation recommended, but this seemed likely to be severe. Since the growth had extended into the external coat of the rectum, it meant not only removal of the growth in the vulva and vagina but also of all that lay between the lower part of the vagina and rectum. It meant, too,

that there would be a deep cavity, one less likely to heal than its predecessor, and with the sphincter ani destroyed, an undesirable condition of things for the patient. It was decided, therefore, to try radium. Dr. E. Napier Burnett, who had had experience of the use of radium, saw the patient with me, and although the growth was involving both passages, and presented therefore not an encouraging condition of things, we thought there was just the chance that radium might do good. Accordingly, we obtained from the Radium Institute, London, a tube of radium emanations. Covering it with gauze, the tube was gently inserted into the vagina and left there for 24 hours. On removing the tube the mucous membrane of the vagina was seen to be reddened, and on the following day it was slightly inflamed. A mild muco-purulent discharge followed, but there was never any hæmorrhage beyond a few drops on the dressing on two or three occasions. Within eight days the inflammation had subsided. There was never any unpleasant odour attendant upon the discharge nor did sloughing occur. By the end of six weeks the growth had become distinctly smaller and more clearly defined. A breach in the mucous membrane which had occurred in the active stage of the inflammation, and from which pus had for a period exuded, gradually closed, the hard mass continued to shrink, and four months after the application of the radium it had entirely disappeared, leaving a healthy vaginal mucous membrane, tissues underneath soft and healthy to the feel, and apparently a normal septum between vagina and rectum. No trace of the growth now remains. The patient has put on several pounds in weight, looks many years younger, and the bladder and rectal functions are normal. She is leading an active and vigorous life and is looking the picture of health.

The application of radium in this apparently hopeless case of recurrent cancer of the vulva more than exceeded the expectations of Dr. Burnett and myself.

Newcastle-on-Tyne.

NOTE ON A SUCCESSFUL METHOD FOR THE EXTERMINATION OF VERMIN INFESTING TROOPS.

BY S. MONCKTON COPEMAN, M.D. CANTAB., F.R.C.P. LOND., F.R.S.,
LIEUTENANT-COLONEL, R.A.M.C. (T.); DIVISIONAL SANITARY OFFICER, FIRST LONDON DIVISION (T.F.).

WITHIN about a couple of months of the troops of the 1st London Division coming into camp under canvas at Crowborough I learned through the medical officers in charge of some of the battalions that a certain number of the men under their charge were experiencing the unpleasant effects incidental to infestation by lice. Steps were at once taken to deal with the matter, but our efforts were at first somewhat handicapped owing to the fact that not only at that time had the men not been supplied with a second service suit, but that a number of those affected were found not to be in possession of a second shirt or change of underclothing. Moreover, it was not possible to obtain assistance from the rural sanitary authority of the area in the work of disinfection, owing to their not possessing any apparatus for the purpose of dealing with infected clothing and blankets.

As a matter of first instance all the battalion medical officers were called together for the purpose of informing them as to the various aspects of the question, including the life-history of the body-louse, Pediculus vestimenti, an excellent description of which, by Professor A. E. Shipley, was published in the *British Medical Journal* for Sept. 19th, 1914. At the same time commanding officers were communicated with as to the necessity for ensuring that all the men under their command should be provided with at least a second shirt, and if possible a complete change of underclothing. Further difficulty was experienced in providing baths for the men, there being no means at hand of obtaining hot water in large quantities. This was eventually obviated by the purchase of several large second-hand galvanised iron tanks, which were set up near the ablution place in each camp. These tanks were supported over a central trench on bricks laid in puddled clay. One end of the trench, which extended beyond the tank at either extremity, was fitted with a chimney built up of old bricks, drain-pipes, and puddled clay, while the other end was used as a stokehole. On lighting a fire in the trench it was found that even where no cover was provided for the tank the contained water, to the amount of 200 gallons or more, could usually be brought to the boiling point in about an hour. Bathing was carried out in an adjoining marquee, or in some instances in an empty house. Hot water from the tanks was carried in buckets and poured into galvanised iron wash-tubs in which the men could stand. Recently, however, the troops have been moved into huts, where ablution-rooms and bath-rooms supplied with hot and cold water are provided.

The further details of treatment are briefly indicated in the following copy of a memorandum which was distributed to all the medical officers of the Division:—

To the Medical Officer .....

TREATMENT FOR DESTRUCTION OF VERMIN.

Arrangements should be made for the bathing of affected individuals and other inmates of infected tents. After drying themselves, men to lather their bodies with cresol-soap solution,[1] especially over hairy parts, and to *allow the lather to dry on.*

Shirts to be washed in cresol-soap solution made with boiling water.

Tunics and trousers to be turned inside out and rubbed with same lather, especially along the seams. *Lather to be allowed to dry on the garment.*

The materials can be obtained from the A.S.C. on indent authorised by A.D.M.S. in the form attached.

(*Form attached.*)

To the Commanding Officer,
Army Service Corps,
1st London Division, T.F.

The following articles are required for the purpose of treatment for vermin. Please supply.

Jeyes' Fluid .....
Soft Soap .....

Signed
Medical Officer.

Address.....

Date.....

Infected blankets were at first treated by soaking them in cresol-soap solution, after which they were sent to a neighbouring laundry to be washed, a

[1] Water ... ... 10 gallons.
Jeyes' fluid ... ... 1½ ounces.
Soft soap ... ... 1¼ pounds.

small contract rate having previously been arranged. In the first week in November, however, a portable Thresh's steam disinfecting apparatus was supplied to the division, through the second army, since when no difficulty has been experienced in the disinfection both of clothing and blankets.

Appended to the article on lice by Professor Shipley, referred to above, was a series of suggestions drawn up jointly by Professor Nuttall and himself, in which the use of paraffin or petrol was advocated for the extermination of lice. Doubtless these substances would be perfectly efficacious for the desired purpose, but their use was not attempted owing to the possible danger, not unlikely to be incidental to the use of substances of so inflammable a nature by large numbers of men. As a matter of fact, the simple and inexpensive method which has been employed by us over a period of several months has proved so successful that no necessity has arisen for a trial of other means of treatment. It may perhaps be mentioned that a number of copies of our memorandum have been distributed in reply to requests from medical officers of health and medical officers in charge of troops. And in view of the fact that trouble due to the prevalence of lice has been experienced in other camps in various parts of the kingdom, the medical officer to the Local Government Board, and other members of the Army Sanitary Committee, suggested that a useful purpose might be served by the publication of a method which has been found so efficacious under service conditions.

A SIMPLE METHOD OF ADMINISTERING DRUGS UNDER WAR AND OTHER STRENUOUS CONDITIONS.

BY F. W. TUNNICLIFFE, M.D. LOND.,
OUT-PATIENT PHYSICIAN, KING'S COLLEGE HOSPITAL; LECTURER IN THERAPEUTICS AND PRACTICAL MEDICINE IN KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.

A FEW days ago I was asked to design a medicine kit to be used by an officer in the trenches for the treatment of ailments amongst his men. It appears that, generally speaking, the services of a medical man are not available, or at any rate may not be available, under the above conditions. The ailments occurring amongst the men during their occupation of the trenches, which I understand is now about four days, can perhaps, with one exception, be aptly included under the general term minor medicine. It was put to me that appropriate medicinal treatment might often prevent a man going on the sick list, or at any rate mitigate the discomfort suffered by him, if, as is invariably the case, he made up his mind to endure much rather than report himself sick. It is not my intention in this note to deal with trench maladies, although a communication upon this subject might be most interesting and helpful. The point, however, which is to be insisted upon is that it is most important to have at hand in the trenches a means of relieving urgent pain. The seriously wounded have often to remain a considerable time in the trenches before they can be removed to the rear, and with the hours of darkness getting shorter as the season advances this time will certainly be prolonged. During this period they suffer most distressing pain, which, both from the restlessness caused by it and its general effect upon them, is likely to make them less capable of enduring the transit and treatment to which they must subsequently be submitted; it is also a source of extreme distress if not of actual demoralisation to their comrades. For such cases an active anodyne in massive doses is urgently indicated and the form in which it is available is not a matter of indifference.

The conditions obtaining in the trenches render hypodermic injections or rectal injections practically impossible. The absence of water makes solution of any solid preparation and subsequent volumetric measurement difficult, in fact, I am told also practically impossible. Tabloids require a manipulation on the part of the giver and a capacity for swallowing on the part of the patient which cannot always be relied upon as obtaining. The best method of which I know at present is the inclusion of the drug to be given in a gelatine or gum stick or in a thin gelatine sheet. In the first case a certain length of the stick is cut off with a penknife and put in the patient's mouth; in the second, an area of sheet is cut off with scissors and also placed in the patient's mouth; length of stick and area of sheet corresponding to a given dose. Muddy hands and indiscriminate knives render even such simple manipulations as these neither as easy nor as clean as they sound. Almost the same objection applies to perles, capsules, palatinoids, wafers, &c. Further, since some of our troops are fighting in snowstorms in Flanders, and others under a practically tropical sun in Egypt and elsewhere, the melting-point of the drug base must be considered.

The method which I have employed, and which, I think, is capable of wide application, is to prescribe the drug to be given in a semi-solid aromatic base and to enclose the mass in a collapsible tube such as is generally used to contain remedies for external application. The base must be sufficiently viscid to enable a continuous semi-solid jet of substance to be exuded from the nozzle by pressure at the bottom of the tube. By varying the composition of the base in glycerine, bismuth base, agar-agar, &c., all climatic conditions can be allowed for. There are many kinds of collapsible tubes on the market; those are specially to be recommended in which the screw cap is permanently attached to the neck of the tube; in these the cap cannot be lost. With a given base the weight of a given length of jet is practically constant, and by this means an accurate dosage can be obtained. The medicinal creams which I have had made so far all have the same dose—viz., 1 linear inch of the exuded jet. An inch can easily be measured against the last joint of the thumb, and indeed can practically always be accurately guessed. I made several experiments with different kinds of tubes and was at first greatly tempted to make use of those tubes, of which there are many on the market, with keys at the bottom; I thought that accurate dosage could be obtained by turning the key through definite arcs. This method is, however, quite fallacious owing to the inconstant calibre of the tubes throughout their length. As a constituent of the base I prescribe some aromatic substance which promotes salivation and thus reflexly stimulates swallowing. So far as I am aware any drug, crystalloid or otherwise, or any first dressing of wounds, except hydrogen peroxide, can be administered in this form and in adequate concentration. I have prepared, for instance, a chlorodyne cream containing up to 30 minims to the inch and a

morphine cream containing up to 2 grains to the inch. In preparing bases for creams containing crystalloids the viscosity of the cream should be tested after the crystalloid has been added and before the mass is put in the tube, as the addition of even small quantities of a crystalloid considerably alters the viscosity of the cream. For instance, a cream which will give in a collapsible tube a perfectly easily measurable semi-solid jet, will not do so after the addition of hydrochlorate of morphine to it, in the proportion of 1 grain of the salt to 20 grains—i.e., 1 linear inch of jet.

The application to the patient of these medical creams is so simple as to need no description. The inch of jet can be severed from the nozzle of the tube against his teeth, or if he is more or less unconscious it can be dabbed off on the back of his tongue. The cap can then be replaced on the tube. The bases which I have up to the present used have been kindly prepared by Messrs. Roberts, of Bond-street, who have shown much ingenuity and perseverance in the matter, and to whom my best thanks are due.

Harley-street, W.

THE TREATMENT OF PERSISTENT DIPHTHERIA INFECTION BY MEANS OF DIPHTHERIA ENDOTOXIN.

BY R. TANNER HEWLETT, M.D. LOND., F.R.C.P. LOND.,
PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LONDON.

IN a former paper[1] Dr. A. T. Nankivell and I detailed results obtained in the "treatment" of persistent diphtheria infections following an attack of diphtheria by means of one or more injections of diphtheria endotoxin prepared by the Macfadyen method. Subsequently I recorded another case successfully treated by the method.[2] Since then I have treated five more cases. One of these was a young medical man, a hospital resident, which was not successful, and I have lost sight of him. The four remaining cases cleared up after the use of endotoxin. Three of these were under the care of Mr. A. A. McAnally, of Eastry, Kent, to whom I am indebted for the notes. The following are the details:—

Ethel S. (11 years), admitted on July 26th, 1914; Edith S. (9 years), admitted on July 27th; and Charles S. (7 years), admitted on August 6th for mild attacks of diphtheria. Between August 10th and Sept. 2nd eight bacteriological examinations showed persistence of diphtheria bacilli. A dose of 0·5 c.c. of endotoxin was given to Ethel and to Edith on Sept. 3rd, but the result was inconclusive, six examinations between that date and Sept. 18th being sometimes positive, sometimes negative. This endotoxin had been in ampoules for several months and had precipitated somewhat and was probably inert. Some more of the same endotoxin which had been kept in bulk was therefore freshly tubed and sent for use. A dose of 0·5 c.c. of this was administered to all three children on Sept. 19th, and Charles showed no bacilli on Sept. 21st, 26th, and Oct. 3rd, and was discharged. A second dose of 1·0 c.c. of endotoxin was given to all three children on Sept. 26th and a third dose of 1·5 c.c. to Ethel and to Edith on Oct. 4th. The bacteriological examinations gave the following results:—

	Oct. 3rd.	6th.	8th.	12th.	15th.	19th.	21st.	24th.	28th.
Ethel S. ...	+	+	+	+	—	+	—	—	—
Edith S. ...	—	—	+	—	+	—	—	—	...

The last case was that of a young medical man, a hospital resident, who developed a mild attack of diphtheria on Nov. 5th, 1914, was treated with antitoxin and recovered fairly rapidly, but in spite of local treatment and change of air bacteriological examinations showed persistence of diphtheria bacilli on Dec. 2nd and 23rd, and on Jan. 4th, 1915. On this day a dose of 0·5 c.c. of endotoxin was given, and bacteriological examinations on Jan. 7th, 11th, and 17th showed absence of bacilli. As a precautionary measure a second dose of 1·0 c.c. of endotoxin was given on Jan. 11th.

Up to date 24 cases of persistent diphtheria infection have been treated with endotoxin. Of these cases, in 17 the bacilli disappeared within a reasonable time after the use of the endotoxin; in one (Ethel S.) the bacilli did not disappear until 17 days after the last dose of endotoxin, and in 6 the treatment was unsuccessful. As regards the last named, it should be noted that some of them were those first treated, and the doses were smaller than I now employ. The treatment I now recommend is to give doses of 0·5 c.c., 1·0 c.c., and (if required) 1·5 c.c. at intervals of about seven days. In no case has any untoward effect been noticed. The endotoxin is injected into the muscle of the upper arm or back, and gives rise to some pain, tenderness, and swelling, lasting a day or two, at the site of injection, and occasionally to some malaise, rash, and rise of temperature. Thus in 75 per cent. of the cases the use of the endotoxin has been followed by disappearance of diphtheria bacilli, and I think the results are such as to warrant an extended trial of the endotoxin in the treatment of these troublesome cases of persistent diphtheria infection.

Chandos-street, W.C.

[1] The Treatment of Diphtheria Infection by Means of Diphtheria Endotoxin, THE LANCET, July 20th, 1912, p. 143.
[2] THE LANCET, June 28th, 1913, p. 1802.

AN X RAY DIRECTOR FOR THE REMOVAL OF FOREIGN BODIES IN THE TISSUES.[1]

BY W. IRONSIDE BRUCE, M.D. ABERD., D.P.H.,
PHYSICIAN TO THE X RAY AND ELECTRICAL DEPARTMENTS OF CHARING CROSS HOSPITAL, ETC.

IT is possible by means of X ray to supply information as to the exact position of any foreign body imbedded in the tissues—a fact which was first demonstrated by Sir James Mackenzie Davidson, his method being generally admitted to be at the present time most reliable and accurate. Since then other methods have been devised which make for ease of application with accuracy sufficient to deal with foreign bodies of some size in the trunk and limbs. The real difficulty, however, rests in the application of such measurements by the surgeon at the time of operation, and for this reason I wish to draw attention to a piece of apparatus which, if it is at all practical to employ, I believe will lead to the successful removal of foreign bodies from any of the tissues, provided such are accessible from a surgical point of view. The principle involved was made use of some seven years ago, and I produced at that time an apparatus, which (though quite successful) was never developed because it was so complicated and difficult to apply; moreover, the question of foreign bodies at that time was not urgent.

The presence of foreign bodies in the tissues is now a matter of the greatest importance, and from what I have seen and heard about their removal there would be no objection to the employment of a more or less elaborate apparatus even if costly, provided that such were a decided advantage to the

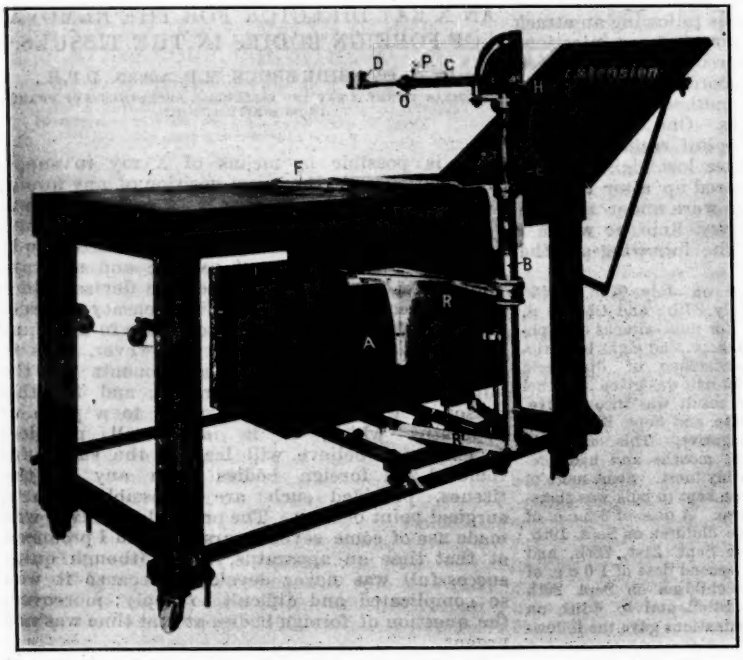
[1] A paper read before the Medical Society of London on Jan. 25th, 1915.

surgeon. Accordingly the original design has been altered, elaboration remains, but the actual application is simplicity itself.

On proceeding to deal with a foreign body in the tissues, which has been localised previously by one or other of the methods devised, the surgeon is confronted by the following difficulties. The marks on the skin are useless once the superficial incision is made; the knowledge of the depth at which the foreign body lies give him little help, since the tissues vary much in thickness; and, lastly, the foreign body, which is said to lie directly below a certain point indicated on the skin—a statement correct only so far as one plane is concerned—is missed, for it is often impossible for anatomical and other reasons to maintain the plane indicated during operation, some deviation being made and the direction lost.

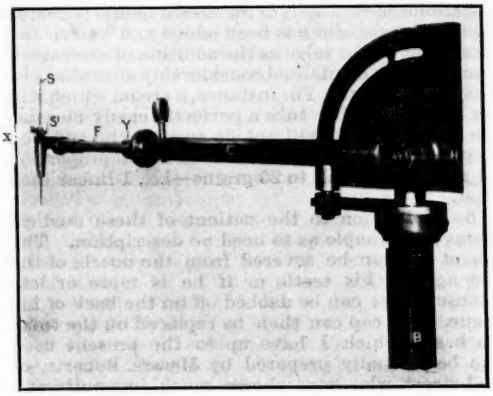
To deal with these difficulties the apparatus which I am about to describe has been constructed. The first principle involved is the necessity that the position of the limb or trunk at the time of operation should be the same as that at the time of observation. This can only be accomplished satisfactorily by a combination of X ray couch and operating table, as illustrated in Fig. 1, so that when under the anæsthetic the subject is placed in the position previously selected by the operator, and, having been firmly fixed in this position by means of sandbags and straps, the X ray observation is made and the operation immediately proceeded with.

FIG. 1.



Shows the construction of the couch and operating table, an extension in the form of a flap (attached to one end) allowing for the accommodation of the patient in dealing with the lower limbs. The couch is provided with a wooden top which can be kept clean and will not absorb fluids. The box containing the X ray tube is marked A, and springing from it, supported by the rigid brackets marked R R', is the upright marked B, to which is attached the cross arm marked C. All these parts are firmly fixed one to the other, and the box with its attachments, upright, and cross arm can be moved freely and easily along and across the whole length and breadth of the couch. The small circular fluorescent screen attached to the cross arm is seen in the position marked D. There is a sliding joint marked E provided (in the upright) for lowering and raising the screen so that it can be brought close to the surface of the body. On the couch is seen lying a strap for securing the subject and the sterilisable director and guide F.

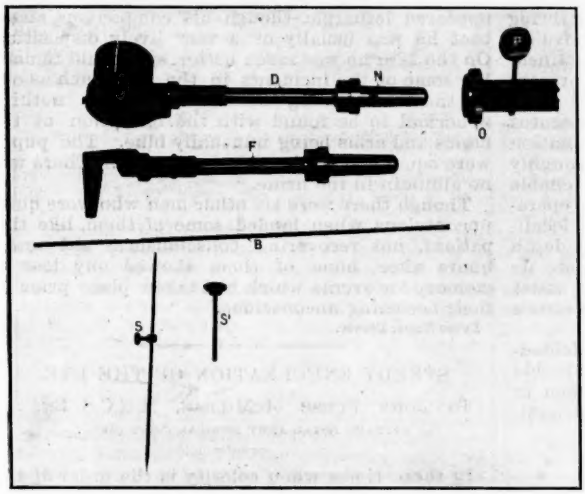
FIG. 2.



Illustrates the cross arm C attached to the upright B, showing the sterilised guide F and sharp director S attached. The cross arm C can be raised by movement permissible at the joint H, which is constructed so that the arm is returnable into exactly the same position without difficulty. From the point X to Y the arm is sterile when in use by the surgeon.

Only one observation should be necessary, but it might happen that accidental movement of the subject occurs, in which case there is no reason why further observations should not be made at any stage of the operation, since only a few minutes are necessary for such a proceeding. The use of the fluorescent screen is essential, so arrangements have been made to enable this to be done in daylight, or bright artificial light, the X ray observer wearing dark glasses for some time beforehand to accustom the eyes to darkness, and an effective fluoroscope being attached. Secondly, the provision of a guide for the operator other than a mark on the skin. It is possible to arrange in connexion with the couch a vertical guide which corresponds exactly with the direction of the radiation. To accomplish this, below the couch in a box (Fig. 1A), which can be moved in any direction freely and easily, we have placed the X ray tube, and springing from this box is a strong and rigid upright (Fig. 1B), to which is attached a cross arm (Fig. 1C) projecting over the couch, all these parts being firmly fixed one to the other, and moving as one piece. At the extremity of the cross arm is attached a small circular fluorescent screen (Fig. 1D), there being provision for lowering or raising the cross arm so that this screen may be

FIG. 3.



Illustrates the fluorescent screen D showing the cross wires to indicate the screen centre, a point corresponding exactly to the centre of the guide which is shown marked F. The special joint N is constructed so that it is impossible that any change of position occurs, both the screen and guide fitting tightly the same socket and locked in position by the pin P. There is a brass collar, O, which is screwed to the arm and is provided for the purpose of easy removal of the screen and guide from the tight-fitting joint. The blunt graduated director is marked B, and the sharp one with its sheath is shown at S S'.

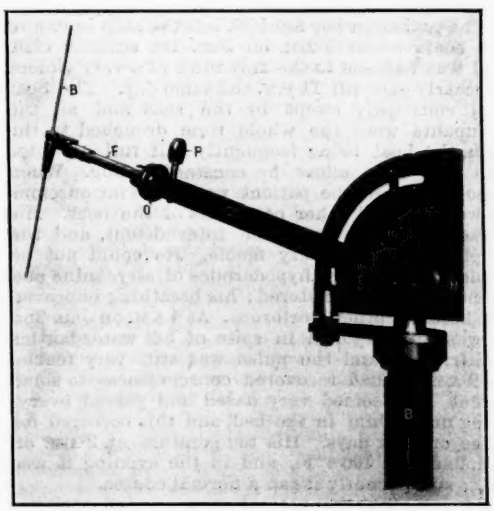
brought in more or less close relationship with the subject lying on the surface of the couch (sliding joint in position shown in Fig. 1E). Since the box and X ray tube are freely movable, and the upright and cross arm are firmly attached to it, the screen will maintain the same relationship to the X ray tube in whatever position it is placed. An X ray tube can be so arranged that only the actual central radiation is used, and under these circumstances the shadow of a foreign body as seen in the screen indicates the exact point in space below which that body lies. In other words, if the X ray tube maintains always the same relationship with the centre of the screen, the central radiation only being used, the shadow of the foreign body seen in the centre of the screen indicates that the body must lie in a line drawn between the tube and the screen centre. In this couch these conditions are easily complied with, for the central radiation is adjusted to correspond with the screen centre, and thus if the shadow of the foreign body is brought central in the screen it must lie below the screen centre in a line between the X ray tube and that point.

The tube box is capable of being firmly fixed in any determined position to the couch by simply pressing a lever, and consequently during observation when the shadow of the foreign body has been arranged in the centre of the screen, the whole—box, tube, upright, and cross arm—can be firmly fixed to the couch by making use of this lever. When this is accomplished the advantage gained is that we have in the screen centre a fixed point below which the foreign body lies. The screen is detachable from the cross arm (at the specially arranged joint seen in Fig. 3N), and in its place can be substituted a sterilisable metal guide carrying a director (seen in Fig. 3F), the point of which is arranged to correspond exactly with the centre of the screen, which has been removed. The guide permits of movement of the director, only in the direction corresponding to the central radiation—that is, in the line between the screen centre and the X ray tube, which is, in fact, in the vertical plane. If the director running through the guide is advanced through the tissues its point must impinge against the foreign body, for owing to the whole construction being rigid any deflection from the proper plane is impossible. The advantage gained by this procedure is evident, for the surgeon is provided with a director which will unfailingly lead down to the foreign body, permitting him to deal as he pleases with the intervening tissues.

The guide and director are sterilisable, so can be safely handled during the operation. A joint is provided in the cross arm to allow of the director being lifted out of the way and returned in exactly the same position when wanted. (Fig. 4, cross arm lifted out of the way. Fig. 2, returned in identical position—joint at H.) The X ray observer from the moment the observation is made hands over the whole apparatus to the surgeon, and takes away all his part of the construction, so that no unsterilised part is brought near the area of operation.

Two forms of director are provided, one blunt and graduated (Fig. 3B) so that the depth discovered by previous localisation can be made use of, the other sharp in the form of a needle (Fig. 3S) to be introduced in suitable cases into the tissues until the point comes in contact with the foreign body. When using the sharp director a telephone can be attached to announce the contact of the point of director with foreign bodies. The blunt director is provided for use in cases in which it is not advisable to introduce the sharp instrument. For example, in

FIG. 4.



To illustrate the cross arm C raised out of the way at the joint H, the guide F and blunt director B being attached. The arm can be replaced as shown in Fig. 2 without any change in the position of the guide or director.

dealing with the abdomen by using this device it is possible to open the cavity, the guide and cross arm being lifted out of the way to facilitate this part of the operation, retract the parietes, bring the director again into place, and gradually advance its point to the depth previously ascertained, dealing with intervening structures as they present themselves.

It is obvious that before using such an apparatus as I have described an ordinary X ray examination should have been conducted to settle roughly the position of the foreign body and enable the surgeon to decide upon the line of operation, which having been done a surface localisation should be made in order that the depth of the foreign body may be gauged and its position roughly indicated on the skin, to assist in its subsequent observation with the small screen provided in the X ray director.

In conclusion, I wish to express my indebtedness to Dr. W. Lindsay Locke for many valuable suggestions and for the interest he has taken in our endeavour to get the apparatus as mechanically perfect as possible.

Chandos-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

LOSS OF MEMORY DUE TO EXPOSURE.

BY H. J. COOPER, M.A., M.B. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case seems worthy of record, as apart from the patient being one of the survivors of the ill-fated H.M.S. *Formidable*, it seems that a scientific interest must be attached to the mental condition following the exposure and apparently caused by it, as there was no evidence of injury having been sustained. Similar cases are known to occur after concussion of the brain, but so far as I know none have been recorded as due to exposure.

The patient, a boy aged 18, left the ship in one of the boats about 2 A.M. on Jan. 1st scantily clad, and was exposed to the full force of a very violent southerly gale till 11 P.M. the same day. The boat was constantly swept by the seas and all the occupants were the whole time drenched to the skin, the boat being frequently half full of water and only kept afloat by constant baling. When brought ashore the patient was quite unconscious as were several other occupants of the boat. His pulse was very small and intermittent, and the respirations were very feeble. He could not be made to swallow, so hypodermics of strychnine and brandy were administered; his breathing improved but became rather stertorous. At 4 A.M. on Jan. 2nd he was still very cold in spite of hot water bottles and friction, and the pulse was still very feeble. By 9 A.M. he had recovered consciousness to some extent, but seemed very dazed and passed everything under him in the bed, and this occurred for three or four days. His temperature at 2 A.M. on Jan. 2nd was 100·4° F., and in the evening it was 101°; subsequently it ran a normal course.

By Jan. 9th the patient was up and walking about, but could remember nothing about the incidents in the boat or how he got into it, and had only a vague recollection of the explosion. At this time he seemed to have no sense of locality and lost his way about the small hospital. He also appeared lethargic, though his companions stated that he was usually of a very lively disposition. On the 12th he was much better and could remember some of the incidents in the boat, such as one of the crew going mad. There was nothing abnormal to be found with the exception of the hands and arms being unusually blue. The pupils were equal and the knee-jerks normal. There was no albumin in the urine.

Though there were six other men who were quite unconscious when landed, some of them, like this patient, not recovering consciousness till many hours after, none of them showed any loss of memory for events which had taken place prior to their becoming unconscious.

Lyme Regis, Dorset.

SPEEDY ENUCLEATION OF THE EYE.

BY JOHN FURSE MCMILLAN, M.R.C.S. ENG., CAPTAIN, ROYAL ARMY MEDICAL CORPS (RET.).

IN these times when celerity is the order of the day it may not be amiss to record a case of enucleation that occurred in practice amongst natives in a clinic at Ferozepoor, the Punjab. The note may be of service having regard to circumstances of war.

The patient was a girl between the age of 5 and 6, suffering from the effects of contagious purulent ophthalmia of the left eye. The patient having been anæsthetised, I affixed the stop-spring speculum and with a hook drew forward and depressed the eyeball, when I was struck by the cramped position of the parts; and so, after having cut round with scissors the conjunctiva above the horizontal equator, I punctured the ball and allowed the vitreous to escape. Then with ease and speed the muscles of the eye were severed; the membranes of the ball were divided at the longitudinal equator, and next carefully trimmed to the eighth of an inch around the optic nerve. There was little or no hæmorrhage. A pad of boracic wool was inserted, and bandage applied. The next morning the wound had almost completely healed by first intention, and at the next visit it was found that the child was so far thought to be completely recovered as to be taken back by her father to her village.

Celerity here was the main point. As regards the danger of sympathetic ophthalmia the risk would appear a minimum, though one would view with caution any tampering with the optic nerve. Let us suppose that the wound does not unite by first intention, as is possible under the conditions of warfare, then it would appear obvious that there is less likelihood of inflammation of the stump than if the optic nerve had been severed. In puncture of the ball the time taken is three and a half minutes; in non-puncture five minutes or over.

ROYAL SANITARY INSTITUTE.—Dr. M. S. Pembrey, lecturer on physiology, Guy's Hospital, and late member of the Advisory Board, Army Medical Service, will open a discussion on Tall *versus* Short Men for the Army, at the Royal Sanitary Institute, 90, Buckingham Palace-road, London, S.W., on Tuesday next, Feb. 9th, at 7.30 P.M. The chair will be taken by Surgeon-General Sir W. Launcelot Gubbins, K.C.B.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF PSYCHIATRY.

The Application of Physiology to the Study of Mind in Health and Disease.

THIS section held its opening meeting of the session on Jan. 26th, Dr. F. W. MOTT, the President, being in the chair.

The PRESIDENT took for the subject of his address the Application of Physiology to the Study of Mind in Health and Disease, and his theme was the importance of the ductless glands in the human economy, especially their influence upon growth and, later in life, upon reproductive activity and integrity. He quoted with approval Maudsley's contention as to the necessity of attempting the objective method in the study of mind, for, as Maudsley said, that which a just reflection taught incontestably the present state of physiological knowledge illustrated practically; and Maudsley contended 40 years ago that no psychology could endure which was not based upon physiological investigations, though physiology could not expect for many years to furnish the complete data of a positive mental science. Physiology, however, had now made great advances, and in no sphere was this more notable than in the biochemistry of the ductless glands and the influence of their internal secretions on the bodily functions, an addition due, in great measure, to English physiologists. It was very desirable to apply this knowledge to the study of psychiatry. In Maudsley's work on the "Physiology of the Mind" the hormone theory was anticipated, for he said that the overmastering feelings during pregnancy and those arising from puberty could not be explained in consciousness, and that there was reason to believe that each internal organ of the body had its representative control in the supreme cerebral centre. The functional development of the reproductive organs occurring at puberty effected a complete revolution in the mentality of the youth; and he now became susceptible to impressions which were previously a matter of indifference to him; he was now the subject of aimless longings and obscure impulses, and altruistic feelings began to germinate, and he appreciated what others had done for him in the matter of care and nurture. These feelings were not present in cases in which the reproductive organs were removed before puberty. The evolution of the sex glands was also important in regard to disease. Nature was not mindful of the individual, only of the species, and the sexual was the strongest of all the impulses. The desires had their source in the unconscious life. It was a common saying that love was blind, yet it also added a precious seeing power to the eye, which was necessary to materialise the biochemical stimulus and effect the continuation of the species. The language of love was universal; it could not be concealed when it existed, nor feigned where it did not exist. Yet in the present condition of civilisation this was the impulse subjected to the greatest amount of repression. Insanity was especially common at two periods of life: in adolescence and at the involutionary period. He asked whether it should be assumed that the mental disorder of the true insanities or psychoses, even those which terminated in dementia, could be explained by any structural changes in the brain; or should it not rather be believed that they were due to disturbance of the physiological equilibrium and of the internal secretions of the ductless glands, in many instances acting on a weak inheritance? The interstitial gland structure of the sexual organs functioned independently of the genetic gland structure; and functionally correlated with the sexual glands were the thyroid, the parathyroid, the hypophysis, the pineal gland, the cortical portion of the suprarenal gland, the thymus, and probably also the islands of the pancreas. For a proper study of this subject there should be a systematic examination of all these glands in health and disease, at all age periods, and in persons with and without mental disorder. He had obtained objective grounds for the association of aberrant mental conditions with disease of ductless glands in three cases of myxœdema. In the thyroid gland there was marked increase of lymphoid and fibrous tissue, and a complete absence of colloid material in one, and a great reduction in the others. There was an increase of colloid material in the pars intermedia of the pituitary gland; and the central nervous system showed marked chromolytic changes in the nerve cells, affecting in a grave manner the autonomic bulbar system. There was an association of the myxœdematous syndrome with acute psychosis. During pregnancy the thyroid gland increased in size, and there was a marked colloid increase in the follicles; a similar increase took place during menstruation and at the climacterium. In pregnancy, too, there was an increase in the parathyroids. There was also a large increase in the lipoid cholesterin content of the adrenal gland, and these cells were, structurally and chemically, closely allied to the cells of the Graafian follicles. The thyroid gland might be of ordinary size yet contain very little gland substance, hence it was necessary to examine microscopically. An interesting case was that of a married woman, aged 57, whose speech was said to have been slow, and who had indistinct tremors of face, hands, and tongue; her memory was impaired, and she had no idea of time or space; she had attempted suicide prior to admission. She became so demented that she was considered to be a case of general paralysis. Post-mortem examination, however, showed that she had not had general paralysis. The sella turcica was very large, the glenoid processes absorbed, the pituitary was twice the normal weight, and the thyroid gland very atrophied and fibrotic. There was an infantile uterus, and the left ovary was destroyed by old salpingitis; the right one was atrophied and damaged. Probably the patient had had gonorrhœa early in life. An increase in the size of the pituitary gland might have an important bearing on the production of mental symptoms; if the cerebro-spinal fluid served as the lymph of the brain, as he believed, excess of the colloid which irrigated the neural spaces might have an important influence on the functions of the organ of mind, but more work was required to remove this from the sphere of imagination. The ovaries of women suffering at an early age from insanity, and dying in early or late adolescence, had been found at the necropsy to be fibrotic. Dr. Laura Forster had made a series of examinations of ovaries in cases of dementia præcox. Those of subjects who had reached the age of 30 showed signs of early involution, and great scarcity of Graafian follicles; also in cases of *manie dépressive* there was a diminution in those follicles. But the value of these findings was greatly lessened by the fact that in a woman who died from heart disease without any mental trouble there was a like reduction. Still, Dr. Forster's work was highly suggestive. With regard to the pineal gland, it had been shown that tumours of the pineal gland occurring in very young people had been associated with precocious development of the sexual functions and the secondary sex characters. It had been thought that the pineal gland might exert some inhibitory function on the development of secondary sex characters. As to the suprarenals, it had been known since the time of Addison that this gland was essential to life. It had been found that the emotion of fear exercised such an effect as to liberate adrenalin in excess into the blood. Elliott had dealt in an illuminating manner with this subject in the Sydney Ringer lectures. The cortical cells of the suprarenal gland were of great importance in the development of the body during its early existence, especially in regard to the brain. And it was of great importance in relation to the development of spermatozoa, and was increased in the pregnant woman; probably the material was necessary for the growing embryo. Adenoma of the cortex of the suprarenal gland had been found associated with precocious sexual development in both males and females. There was also, in the animal series, a correlation between the size of the brain and the amount of adrenal cortex; the cells in its cortex were the source of supply of the lecithin and cholesterin required for the enormous growth of the cerebral hemispheres in early life. In conclusion, Dr. Mott said that though the subject of biochemistry was still in its infancy, it promised most hopeful results.

Dr. J. G. SOUTAR (Gloucester), in proposing a vote of thanks to the President for his address, pointed out how much the clinical alienist was indebted to those who, like

the President, were working to establish principles on which progress could be made in the treatment of mind disease.

Sir GEORGE SAVAGE seconded, remarking that the President was such a successful pathologist because he did not think the science was to be learned simply from dead matter.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in the Pathological Laboratory of the Queen's University of Belfast on Jan. 21st, Dr. J. S. Morrow, the President, being in the chair.—Sir John Byers gave an account of a case of severe Pre-eclamptic Toxæmia successfully treated by the Stroganoff method. A very careful chemico-physiological analysis of the urine, made by Dr. John Gibson, was brought forward.—Professor W. St. C. Symmers read a short paper giving an account of the lesions produced in a Soldier's Skull by the Accidental Discharge at Short Range of a Modern Rifle.—Dr. T. S. Kirk read a short note on a case of Fat Embolism following Fracture of the Femur.—Dr. T. Houston read a paper on Bacteriological Diagnosis.—Dr. W. W. D. Thomson read notes on the investigation of a case of Chronic Interstitial Nephritis with an unusual degree of urea retention, and on certain peculiar crystals found in the cerebro-spinal fluid in a case of septic meningitis.—Sir Alexander Dempsey showed a Tumour of the Suprarenal Gland and a Cancer of the Body of the Uterus.—Mr. A. B. Mitchell showed a Carcinoma of the Penis, an Ulcer of the Stomach Resected, and a Gall-bladder containing Gall-stones.—Mr. R. J. Johnstone showed a specimen of Abdominal Pregnancy, a Tumour of the Transverse Colon which gave considerable difficulty in diagnosis, and a very large Fibroid of the Uterus.—Mr. A. Fullerton showed some Renal Calculi.—Mr. Howard Stevenson showed a specimen from a case of Acute Hæmorrhagic Pancreatitis.—Dr. C. G. Lowry showed a Fibrocystic Tumour of the Ovary which caused intraperitoneal hæmorrhage, and a Calcified Tuberculous Pyosalpinx from a woman aged 62.—Dr. G. A. Hicks showed specimens of Tuberculous Fallopian Tubes and a case of Tubal Abortion.—Dr. Thomson showed a Rapid Method of Preparing an Autogenous Acne Bacillus Vaccine, a case of Pseudochylous Ascites in which Lactescence was due to Globulin, and Blood-films illustrating (1) blood changes in von Jaksch's disease and (2) marked mitotic changes in the megaloblasts in a case of pernicious anæmia.—Mr. S. T. Irwin showed a breast with an Adenoma and Multiple Cysts.—Dr. T. S. S. Holmes showed a Kidney with Pyonephrosis.—Specimens were also shown by Professor Symmers and by Sir John Byers.—Full discussions followed the reading of the various papers.

HARVEIAN SOCIETY OF LONDON.—A clinical meeting of this society was held at the Paddington Green Children's Hospital on Jan. 28th, Dr. Edgar G. Bulleid, the President, being in the chair.—The following cases were shown:—Dr. Leonard G. Guthrie: Juvenile Tabes with Optic Atrophy in a boy suffering with congenital syphilis.—Dr. Corry (for Dr. Guthrie): Enlargement of Thyroid Gland in a child aged 6.—Dr. G. A. Sutherland: (1) Tuberculous Peritonitis, showing a very well marked von Pirquet's reaction; and (2) Congenital Pyloric Hypertrophy.—Dr. R. H. Miller: Aortic Regurgitation of recent rheumatic origin in a child.—Dr. W. H. Willcox: (1) Renal Calculus in a man who referred his pain to the side opposite to the kidney in which the stones were shown by X rays to be situated; and (2) Toxic Jaundice, due to poisoning by tetrachloride of ethane, in an employee of an aeroplane factory.—Dr. Frederick Langmead: Muscular Fibrosis in a girl aged 5. Had been under observation since 5 weeks of age for scleroderma, upon which the muscular condition had been superimposed.—Mr. H. W. Perkins showed numerous Pathological and Microscopic Specimens.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 19th, Dr. Arthur Manknell being in the chair.—Dr. William Mitchell gave an X Ray Demonstration, a large variety of plates being shown. Of special interest were a series of plates showing multiple fractures from a case of osteomalacia, and also a series showing the stomach after a bismuth meal in various gastric diseases.—Mr. W. H. Hooton showed a radiograph of both kidneys in which were huge stones. This case was said to be unique as being the largest bilateral renal calculi on record.—Dr. A. Rabagliati read a paper on the Functions of the Connective Tissue. After minutely describing the anatomy of the connective tissue he laid great stress on the continuity of the areolar tissue throughout the body, and pointed out that this was of great importance in relation to the spread of infections. He then proceeded to elaborate a theory that the connective tissue cells were organs of sensibility inasmuch as they were the organs which received sensations, while the nervous cells and tissues carried out their function of interpreting these sensations.

Reviews and Notices of Books.

Forensic Medicine and Toxicology.

By J. DIXON MANN, M.D. St. And., F.R.C.P. Lond. Fifth edition. Revised and enlarged by WILLIAM A. BREND, M.A. Cantab., M.B., B.Sc. Lond., Barrister-at-Law, Lecturer on Forensic Medicine and Toxicology, Charing Cross Hospital. London: Charles Griffin and Co., Limited. 1914. Pp. 737. Price 18*s*.

THIS volume is well known, and for advanced students no better text-book can be found. In the present edition Dr. Brend, who is responsible for its production, recognising the thoroughness and accuracy which always characterised the work of the late Professor Dixon Mann, has left the main features of the book as far as possible untouched. By numerous additions he has brought it thoroughly up to date.

An account of the Mental Deficiency Act has been included. The classes of patients who are deemed to be mentally defective within the meaning of the Act are set forth, and the requirements as to the making of orders are explained. A short account is given of the Workmen's Compensation Act, 1906, and some instructive remarks are made on the difficult question of "malingering." It is pointed out that the real fraudulent malingerer is relatively rare in comparison with the great number of claims which are preferred under the Workmen's Compensation Act and the National Insurance Act. Dr. Brend recognises four types of cases of fraudulent claim: (1) persons who have no affection or injury of any kind; (2) those who are suffering from lesions deliberately produced; (3) those who represent old-standing disease or injury to be the result of a recent accident; and (4) those who are suffering from the effects of an injury or disease not of a serious character, and who consciously and fraudulently exaggerate their symptoms. We consider this a good practical classification, and medical examiners may simplify their ideas by acting upon it. Many cases of suspected malingering present great difficulties, but the introduction of medical referees has exercised a restraining effect in the prevention of fraudulent claims.

In discussing drugs which have been adopted for the purpose of procuring criminal abortion, attention is rightly drawn to the use of lead, most frequently in the form of pills made from diachylon. The practice appears to have originated in the Potteries, where women working with lead would be likely to discover its effects in this direction. In the part of the book dealing with toxicology an account of the law relating to the sale of poisons has been added, and recent work connected with poisoning by veronal, aspirin, carbon monoxide, lead, ferro-silicin, unsound meat, and other substances has been included.

We have referred to only those portions of the work which have been revised or which are to be found for the first time in this edition. Dr. Brend may be congratulated on the way in which he has modernized this excellent text-book, and we can cordially recommend it both to medical practitioners and students. Barristers also would find it of considerable assistance as a work of reference.

The Blood: A Guide to its Examination and to the Diagnosis and Treatment of its Diseases.

By G. LOVELL GULLAND, M.A., B.Sc., M.D. Edin., F.R.C.P. Edin., Senior Lecturer on Clinical Medicine in the University of Edinburgh, &c.; and ALEXANDER GOODALL, M.D. Edin., F.R.C.P. Edin., Assistant Physician to the Royal Infirmary, &c. Second edition. Edinburgh and London: W. Green and Son. 1914. Pp. 384. Price 15*s.* net.

WE are glad to welcome a second edition of this book within a relatively short time since its first appearance. Its general scope is not much altered, but it has been brought up to date and has received considerable additions in the process. For the benefit of those who are not already acquainted with the volume we may point out that the first 53 pages are devoted to methods of examination—counting, staining, and so forth; then follows a description of the formed elements of the blood, with their sources and their variations in different animals and different conditions; next comes a detailed account of the various disorders of the blood, or so-called blood diseases; and the remainder of the volume treats of the condition of the blood in other affections and of the parasitic organisms which are found in it.

Among the novel matter appearing in this edition we may mention the discussion of von Schilling-Torgau's views on the structure of the erythrocyte, according to which these cells are supplied with a nucleus, a centriole, and two peculiar intracellular bodies, the glassy body and the capsule corpuscle, giving the red cells a much more complicated constitution than is generally recognised. The authors do not discuss or criticise these views, so that we do not gather how far they accept them. We welcome their plea for the retention of Ehrlich's original classification of cases of leukæmia into lymphatic and medullary, as opposed to complicated subdivision based on special forms of leucocytes found to be present, although mixed forms must be admitted. An appendix is devoted to the question of splenectomy in pernicious anæmia—a procedure which the authors do not regard favourably, as the seat of the trouble is probably in the bone-marrow and not in the spleen. Here as elsewhere the judgment expressed is prudent and commendable.

The book is well got up and well illustrated.

Elements of Pharmacy, Materia Medica, and Therapeutics.

By Sir WILLIAM WHITLA, M.A., M.D., LL.D. Tenth edition. London: Baillière, Tindall, and Cox. 1915. Pp. xii.–680. Price 9*s.* net.

THE appearance of the tenth edition of a text-book bearing on the title-page the statement that it is the forty-second thousand, would almost warrant a reviewer in considering that no detailed criticism was necessary. In a brief preface, however, the author states that the advent of the new British Pharmacopœia has necessitated changes on every page, and that the present volume may therefore be regarded as a new book. Those familiar with former editions need feel no alarm at this broad statement. The general arrangement of a wealth of material remains as before; the novelty consists in the assimilation of the changes which must be made if the book is to be brought into harmony with the new standard. The introduction of the metric system is responsible for many of the changes; much space is devoted not only to a reproduction of the tables from the Pharmacopœia, but also to several more detailed tables which will save time and calculation.

As in former editions, the author has shown an admirable discretion in separating from the official monographs just those details which are likely to be of service either to the student or the junior medical practitioner; he omits all reference to standards of purity and to arsenic limits and lead limits. On the other hand, there are many useful hints relating to incompatibility and to convenient methods of securing suitable combinations of new and old remedies. The therapeutic section has been carefully revised, and there is abundant evidence that Sir William Whitla has keenly scanned all recent therapeutic advances. The section on non-official remedies, which extends to over 130 pages, contains information relating to very numerous drugs, nearly all protected by trade names, and in many cases to be regarded as still *sub judice*. In referring to this section, students should note the care with which the author has given the names of those responsible for many of the observations; he does not always indicate that he has himself confirmed the experiences of others.

The prescriptions in the section on therapeutics will serve as good examples to young prescribers, but it may puzzle them to ascertain what system of abbreviation has been adopted. On p. 467, in consecutive lines will be found Tinct. and Tr., and Spirit. and Spt. are of frequent occurrence; nor is there any apparent reason why Syrupi should generally be written in full and sometimes be contracted to Syr. These little inconsistencies do not materially detract from the general high standard of the work for its special purpose. It may be anticipated that it will receive the cordial acceptance accorded to former editions.

The New Parent's Assistant.

By STEPHEN PAGET. London: Smith, Elder, and Co. 1914. Pp. 119. Price 3*s.* 6*d.* net.

THE charm of Mr. Stephen Paget's previous essays had led us to regard a new volume of essays by him with the feelings of a schoolboy towards a hamper from home. "The New Parent's Assistant," while consisting like his previous books of a number of individual essays, differs from them in the fact that all the essays have relation to one subject—viz., the bringing up of the child as a sound organism, physically, mentally, morally, and religiously. Mr. Paget's method of assisting the parent differs fundamentally from that of Miss Edgeworth, from whose "Parent's Assistant," needless to say, he has adapted the title. Miss Edgeworth wrote down stories told to occupy the children's attention and so keep them interested while insidiously training them on the moral lines that were the ideal of an age of sentiment. Mr. Paget deems it a more effective method to keep the parents interested while equally insidiously imbuing their

minds with a conception of the change that has taken, and is still taking, place in the old psychological order as it concerns the physical, mental, and moral relations between parents and offspring. While the reader imagines himself as merely being amused, he is, in point of fact, imbibing a wholesome draught of moral values nicely balanced so as imperceptibly to adjust the transition from the placid spirit of the eighteenth and first half of the nineteenth century to that of the adventurous twentieth.

The essays, which are nine in number (and a preface), deal with the self, the development of understanding in the child, true and false authority, understanding in relation to faith, the child's interpretation of nature (which includes a most delicate and tactful handling of the problem of sexual enlightenment), true and false discipline, a homily on the love of London—"for it is not all children who love their London as they ought"—and finally on the use of grandparents. The baby, according to Mr. Paget, is the true fountain of honour, for from the moment of his birth he sets about creating dignities and bestowing titles—"father, mother, uncle, aunt, grandpapa and grandmamma." The concluding essay, entitled "August, 1914," was written after the war began, and in it, with chastened optimism, the author looks forward to the time a few years hence when the darkness of this year shall be transfigured, and the children of his vision shall be "more grave, more patient than we were at their age; quicker to put things eternal before things temporal; more simple in their ways, more moderate in their pleasures, more careful over their words, more willing to look in the face of death, more conscious of God in their daily affairs."

The author's quaint charm of style, his unexpectedness of thought, and his wealth of application of human and scientific lore to the problem of the child, combine to make a fascinating volume.

The House-Fly (Musca Domestica Linn.); Its Structure, Habits, Development, Relation to Disease, and Control.

By G. GORDON HEWITT, D.Sc., F.R.S.C., Dominion Entomologist of Canada. Cambridge University Press. 1914. Pp. 382. Price 15*s.* net.

THIS book is the successor of one with a nearly identical title by the same author which was published by Sherratt and Hughes for the Manchester University Press, and reviewed in THE LANCET of July 2nd, 1910. It can, however, hardly be called a new edition of that book, as although it still contains the whole of the author's original matter from his monographs published in the *Quarterly Journal of Microscopical Science* in 1907, 1908, and 1909, the great amount of subsequent investigation on the subjects has necessitated the preparation of what is practically a new work; this is suggested by the fact that it contains 193 pages more than the previous book, although its price is 5*s.* less. It is intended not as a popular work but as a text-book for entomologists, medical men, and health officers. After a brief historical statement the book deals, in six parts, with the structure and habits of the house-fly, the breeding habits, the life-history and structure of the larva, its natural enemies and parasites, other species of flies frequenting houses, the relations of house-flies to disease, and control measures. The diseases discussed in relation to flies are of course typhoid fever and the summer diarrhœa of infants, also anthrax, tuberculosis, cholera, ophthalmia, plague, small-pox, diphtheria, frambœsia, leprosy, dysentery, syphilis, poliomyelitis, trypanosomiasis, and many others. This part (V.) will be of special interest to medical men and health officers. There are some excellent illustrations, coloured and half-tone, an exhaustive bibliography occupying 36 pages, and an adequate 9-page index. As we commended the previous book, so we commend this.

Manuel de Cystoscopie.

Par E. PAPIN, Chef de Clinique des Voies Urinaires à l'Hôpital Necker. Préface par M. le Professeur F. LEGUEU. Paris: F. Gittler. 1914. Pp. 326. Price 15 francs.

CYSTOSCOPY has assumed such an important part in the diagnosis and treatment of diseases of the bladder and ureters that it is essential that this method of examination should be taught regularly and systematically. In most works on the subject the student is plunged *in medias res*, so that he is confused by being taught too much, but in this book he is introduced step by step into the subject. The instruments employed are described and the mode of using them is carefully explained. The book also contains a description of ureteral catheterisation and pyelography.

The illustrations are very numerous, and we can confidently recommend this work to any student or surgeon who reads French.

A Manual of Diseases of the Eye.

By CHARLES H. MAY, M.D., New York, Chief of the Eye Clinic, Columbia University, New York, 1890–1903, &c., and CLAUD A. WORTH, F.R.C.S. Eng., Surgeon to the Royal London Ophthalmic Hospital. Fourth edition. London: Baillière, Tindall, and Cox. 1913. Pp. 444. Price 10*s.* 6*d.* net.

THE fourth edition of this well-known text-book, which differs little, if at all, from the work which is published in America as by Dr May alone, has been revised in detail and brought up to date. There is an excellent chapter on the use of vaccines by Mr. S. H. Browning, which shows most alteration and contains many valuable hints. Reference is made in the preface to the "increased stringency and complexity of the tests required for some of the public services" for colour vision, but the Board of Trade tests for the British Mercantile Marine are quoted from regulations which have been superseded. Mr. C. Devereux Marshall has written a chapter on this subject from the standpoint of Dr. F. W. Edridge-Green's theory, which is accepted now by most ophthalmologists, though it is critically received in some quarters.

Practical Medical Electricity.

By ALFRED C. NORMAN, M.D. Edin. London: The Scientific Press, Limited. 1914. Pp. 226. Price 5*s.* net.

WITH regard to the title of this book it is open to question if the author has been quite happy in his choice. The student who buys this book with the idea of extending his knowledge of medical electricity proper is likely to be disappointed, since this subject is scarcely touched upon, and such references as there are, are of a very superficial character. The book is really a treatise on the various instruments used in the application of electricity in medicine and surgery; it explains their principle, construction, and mode of application with such clearness and accuracy as to make it evident that the author possesses a knowledge of

the technical side of electricity far in advance of that of the average medical man. In making the above criticism we are not to be understood as implying that there is no place for such a book as this. On the contrary, it fills a real want, and will be of the greatest value to all those who are taking up those branches of medical work where electrical appliances are largely used. To many such the technical and physical problems involved are a serious difficulty from the fact that so few medical students take any interest in electro-physics beyond the minimum required to pass a preliminary examination, and what little they learn they take no pains to remember in after years. They will find, however, in this volume a means by which they can recover many lost opportunities, and for answering the technical and physical questions that are continually suggesting themselves the book will be found most useful. Where explanation offers any difficulty the author has made use of diagrams to make the description more clear, a great improvement on the mere use of an illustration of the finished apparatus from an instrument maker's catalogue, which teaches little or nothing.

The second part of the book is devoted to X ray appliances, including a very useful chapter on the management of the X ray tube, a subject none too well understood by many of the radiographers suddenly called into being by the crisis through which the nation is now passing.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

MEDICATED GELATINE LAMELS.

(MESSRS. SAVORY AND MOORE, LIMITED, 143, NEW BOND-STREET, LONDON, W.)

WE referred to this very convenient form of medicament some time ago, but at the present moment its advantages come into special prominence owing to its usefulness in field service. The lamel consists of a thin pliable gelatin sheet about 9 centimetres (3½ inches) long and 6 centimetres wide, divided into 24 squares. Each square contains a definite dose of medicament. The squares are marked off in grooves so that it is easy to detach one, two, or more, as the circumstances require. The specimens submitted to us included: Dover's powder, 5 grains; extract of cascara sagrada, 2 grains; chlorodyne, 5 minims; strong tincture of ginger, 5 minims; coca extract, ½ grain; tincture of opium, 5 minims; morphine hydrochloride, ⅛th grain; Easton's syrup, 30 minims; phenacetin, 3 grains; and quinine sulphate, 2 grains. Out of curiosity as to the accuracy of dosage secured per square, we took 10 squares and estimated in them by analysis the actual amount of quinine. This yielded 1·5 grains of quinine hydrate per square, and as quinine sulphate contains 73 per cent. of quinine hydrate, the amount of quinine sulphate corresponding with this is exactly that stated—viz., 2 grains. The lamels pack quite easily in a small pocket-book, which in its turn is contained in a waterproof case to keep out damp. The complete outfit is very neat and compact, and should be of the greatest service in a campaign.

"SEMPROLIN" LIQUID PARAFFIN PREPARATIONS.

(MESSRS. WILLIAM BROWNING AND CO., 4, LAMBETH PALACE-ROAD, LONDON, S.E.)

We have already reported in these columns upon a series of semprolin preparations, their basis being a highly refined petroleum. We have now received further preparations which have recently been added to the list. The simplest preparation amongst these is a laxative cream which is stated to contain approximately 90 per cent. by volume of liquid paraffin. This figure was confirmed by our analysis, for by extraction of the cream after drying it on the water bath just short of 91 per cent. of petroleum was obtained. This form of petroleum will no doubt appeal to many patients to whom a clear oil is objectionable. The semprolin emulsion with malt contains an active extract of malt associated with petroleum, and we found present 40 per cent. of hydrocarbon. Another semprolin emulsion contains 2 grains of phenolphthalein to each tablespoonful. This particular combination has been used in the treatment of mucous colitis with encouraging results. Lastly, we examined a semprolin emulsion containing 5 grains of salol in each tablespoonful. This intestinal antiseptic is soluble in petroleum, and altogether the combination seems well adapted for the antiseptic treatment of the intestinal contents.

SURGICAL CREOSALGEN.

(MESSRS. C. J. HEWLETT AND SON, LIMITED, 35-42, CHARLOTTE-STREET, LONDON, E.C.)

On examination surgical creosalgen proved to contain just 50 per cent. of active tar acid in a completely soluble form. The clear liquid dissolves in all proportions with water, forming a bright fluid. According to the iodine combination figure of the tar acids creosalgen possesses a higher germicidal value than carbolic acid and probably nearly three times as high. The advantage of this antiseptic for surgical purposes is that in addition to its germicidal efficiency it removes grease and mucus, while it has no corrosive action on surgical instruments.

DIABETIC BISCUITS.

(MESSRS. CALLARD AND CO., 74, REGENT-STREET, LONDON, W.)

These biscuits fulfil a useful purpose in the dietary of the diabetic patient. The carbohydrates, as our analysis showed, are reduced to a minimum. In spite of this they are palatable and attractive. The specimens we received were described as "ponos" biscuits and "ponos" fingers. The analysis of the biscuits was as follows: moisture, 6·70 per cent.; mineral matter, 5·00 per cent.; protein, 61·87 per cent.; fat, 23·80 per cent.; carbohydrates, 2·63 per cent. These preparations enable the physician, when he considers such a course desirable, to give his patient alternately an allowance of carbohydrate in the shape of a standard carbohydrate—e.g., bread—and a diet practically excluding carbohydrate altogether. In this way the carbohydrate toleration of the patient can be followed.

EAU DE COLOGNE, CAERWISC BRAND.

(MESSRS. EVANS, GADD, AND CO., 100, FORE-STREET, EXETER.)

There has long been a formula for eau de Cologne which has been followed in this country. It is a quite good one, and the product is in no sense inferior to the classic one. Eau de Cologne serves a useful purpose in helping to allay congestion of superficial parts, often relieving headache

due to vascular dilatation. This specimen showed an alcoholic strength of 73·93 per cent. by volume. It possesses a fragrant and refreshing odour.

WHATMAN FILTER PAPERS.

(MESSRS. W. AND R. BALSTON, LIMITED, SPRINGFIELD MILL, MAIDSTONE. AGENTS, MESSRS. H. REEVE, ANGEL, AND CO., 15, NEW BRIDGE-STREET, LONDON, E.C.)

Many workers in the scientific laboratory will welcome the introduction of an English manufactured filter paper which gives results equal to those formerly imported from Germany. We have given the Whatman filter paper careful trial and have chosen for the purpose precipitates which are admittedly difficult to collect. Thus precipitations of calcium oxalate, cuprous oxide, and barium sulphate often give difficulty in the filtering process owing to the fineness of the particles, which easily pass through ordinary filtering materials. We found that these filter papers not only gave clear filtrates, but also that they were reasonably rapid in action. Their ash content is low, so that a correction for mineral matter is not necessary in the majority of cases. We found that the total ash obtained on incineration of the paper amounted to 0·121 per 100 parts by weight of the paper. These papers facilitate scientific work and they are an excellent filtering medium; their price is modest.

New Inventions.

A MAXILLARY SPLINT.

THIS is a light wire splint for fractures of the mandible, which maintains the fragments of the fractured bone in immobile apposition, permits movement at the temporo-maxillary joint, and preserves the normal relation of the superior and inferior maxillary bones to one another. (Fig. 1.) The splint is a modification of that of Professor Schröder; it may be adapted to any fracture of the mandible and also of the superior maxilla; moreover, it is of considerable use in cases of partial resection of the former bone and in those of bone transplantation, as it prevents displacement of the healthy part of the jaw towards the side operated on. (Fig. 2.) In simple fractures accompanied by only slight displacement the splint, then consisting only of wire arch and two clamp bands, can be fitted straightaway in about half an hour, and is worn until the fracture is united. Where one cannot obtain immediate complete reduction, such as in old-standing fractures with displacement, this splint combined with an inclined plane and elastic traction (e.g., rubber band) is of much value. The constant elastic pull gradually reduces the displacement.

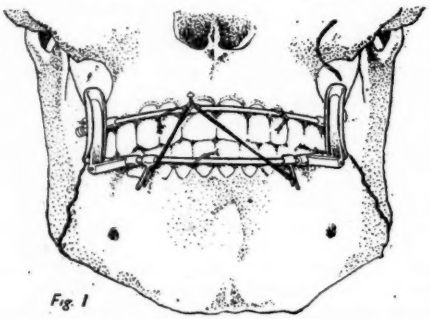


Fig. 1

The splint consists (1) of two wire arches; (2) four anchor clamp bands; (3) two guiding pins, two shoes (slots), and four tubes, or instead of these an inclined plane; (4) hooks for rubber bands; (5) rubber bands; and (6) ligature wire. The use of the guiding pins and shoes, or the inclined plane, is not restricted to the wire arches alone; they can also be attached to vulcanite or metal splints in case of deficiency of teeth.

The advantages of the splint are the following:—1. It actually maintains the fractured fragments firmly in apposition and permits movement at the temporo-maxillary joint. 2. It can be kept ready in various sizes, thus enabling the surgeon to immobilise any fracture of the jaw straightaway, instead of delaying the treatment. 3. There is no need for a workshop with swaging or casting appliances necessary for the making of interdental splints. 4. The patient is able to open and close his mouth 12 to 24 hours after insertion of the splint. 5. The patient does not run the risk of stiffness of the jaw through its being fixed for a long period by an interdental splint. 6. There is no possibility of a bad articulation of teeth through malunion of the fracture, as sometimes occurs with interdental splints which keep the mouth open. 7. The condition of the mouth can be kept constantly under observation, and cleanliness is easily maintained. 8. There is no unsightliness, and discomfort to the patient is the least possible with an intraoral splint.

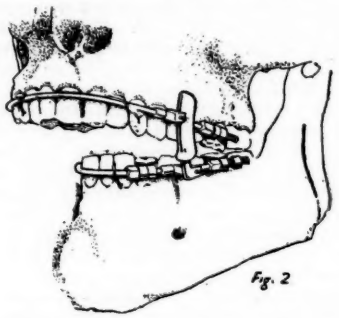


Fig. 2

The splint has been carefully made for me, according to my suggestions, by the Dental Manufacturing Co., Limited, Alston House, Newman-street, London, W.

C. A. ACHNER, L.D.S. Eng.

LITERARY INTELLIGENCE.—We announced last year a forthcoming book by Sir Clifford Allbutt on "Disease of the Arteries and Angina Pectoris," to be published by Messrs. Macmillan and Co., the work being designed to appear last autumn. The two volumes were practically ready when the war naturally stopped publication. No date has yet been fixed for publication, we understand, but we hope there will be no long delay in a book that will be of great service to clinicians, we feel sure.—Messrs. J. and A. Churchill announce for publication a new (fifth) edition of Sir Henry Morris's "Human Anatomy." Different sizes of type are now employed, to facilitate the work of the student. The letterpress is accompanied by nearly 1200 illustrations, 350 of them being in colours. The same publishers are just issuing a second edition of "Squire's Pocket Companion to the British Pharmacopœia."—Messrs. Smith, Elder, and Co. announce for immediate publication a fifth and enlarged edition of Dr. Ralph W. Leftwich's "Index of Symptoms." The new edition contains a large number of new symptoms and many new tests, while the interlineary notes have been much amplified.—Mr. H. K. Lewis announces for immediate publication the sixteenth edition of the "Extra Pharmacopœia," by W. H. Martindale, F.C.S., and Dr. Wynn Westcott; this edition has been revised with the accustomed thoroughness, and amongst other additions contains a syllabus of the additions, deletions, and alterations in the new British Pharmacopœia. An eleventh edition of Swanzy's "Handbook of Diseases of the Eye" is appearing immediately through the same firm. Owing to the death of Sir Henry Swanzy since the publication of the last edition it has been revised and edited by Dr. Louis Werner, who was associated with the author in the issue of the two previous editions. Mr. Lewis has also in the press a new work on "Occupational Diseases of the Skin," by Dr. R. Prosser White, of Wigan; a translation by Dr. Henry de Meric of Delorme's "Surgery in War"; and a new edition of "Diseases of the Nose and Throat," by Dr. Herbert Tilley. This last work has been largely rewritten and the number of plates and text illustrations increased.

THE LANCET.

LONDON; SATURDAY, FEBRUARY 6, 1915.

The Annual Report of the Medical Officer of the Local Government Board.[1]

A NEW annual report of the medical officer of the Local Government Board can always be relied upon to furnish a fund of information on scientific and administrative questions bearing upon the public health, and the volume now issued for 1913–14 is no exception to the rule. The variety of the subjects over which the activity of the central public health department extends is well illustrated by the reports of the medical staff and of the special investigators which Dr. A. NEWSHOLME has selected for publication. Some of these are reports on epidemics which have already appeared separately and been noticed in these columns. Dr. E. P. MANBY'S report on an outbreak of enteric fever in Kenilworth should be a lesson to those responsible for public water-supplies to make frequent surveys of the physical conditions under which the water is obtained, and not to consider that the absence of complaints or a long immunity from water-borne disease signifies that the supply is above suspicion. The report by Dr. F. R. SEYMOUR on lead poisoning at Guisborough brings out the great extent to which lesser degrees of ill-health may be found in a community dependent on a water-supply which is capable of acting on lead pipes; while Dr. H. A. MACEWEN gives an interesting account of an outbreak in South London of diphtheria which was due to milk obtained from a farm where diphtheria infection was present both on the teats of the cows and on the hands of certain of the milkers. Dr. MACEWEN also contributes to this volume the history of an outbreak of small-pox in a cotton mill at Milnrow, in Lancashire, in which infection seems clearly to have been introduced by imported raw cotton, apparently that coming from Mexico. Summaries are given of the reports of different inspectors in the medical department on the sanitary circumstances of about 50 administrative districts in England and Wales. If these are representative it must be concluded that much has still to be done by many local authorities in the appointment of a sufficient sanitary staff, the provision of isolation hospitals, attention to unhealthy conditions of housing, doubtful water-supplies, absence of sewerage, and other matters. The summaries of the sanitary conditions in Llanelly, Lleyn, and Aberayron suggest that many Welsh districts in particular need strong central pressure to secure some elementary sanitary improvements which have long been effected in other parts of the country which are not usually regarded as specially progressive.

The Local Government Board has recently shown much activity in inducing local authorities to take those measures for the care and supervision of pregnant women, infants, and children under school age which are now generally grouped under the term "maternity and child-welfare work." In this organisation the woman health visitor plays an important part, and the prospects which these posts offer to educated women who desire to do good social service and are not afraid of hard work deserve to be better appreciated than they are at present. The report contains a memorandum on health visiting by Dr. J. E. LANE-CLAYPON, which deserves special attention in this connexion. Dr. LANE-CLAYPON insists that the value of the health visitor can be enormously increased if she is able to begin her work, not after the notification of a birth, but during the period of pregnancy, acting as part of the staff of a local maternity centre or clinic to which expectant mothers are encouraged to come, at any stage before their confinement, for treatment, advice, or supervision in health matters. The development of local maternity centres, health visiting, and similar undertakings for child welfare is now, we know, being facilitated by a scheme of Government grants, and Dr. NEWSHOLME'S observations on the scope and value of this work will be welcomed by medical officers of health and others who are endeavouring to secure local progress in these directions. The reports of research work carried out for the department are fewer than usual, but Dr. F. W. ANDREWES'S investigations of the causes and conditions associated with arterial degeneration are continued, and reports are issued by Dr. F. R. BLAXALL on chemical substances which can be used to supplement or replace glycerine as a means of quickly freeing vaccine lymph from extraneous organisms without prejudicially affecting its potency. Specially good results have been obtained by the use of oil of cloves in the preparation of glycerinated lymph. Foreign intelligence work in regard to exotic diseases has always formed an important part of the duties of the medical department of the Local Government Board, and we miss from the present volume the yearly account of the world prevalence of cholera, plague, and yellow fever which has long been a feature of the series. The account for 1913–14 is, however, to be issued as a separate publication. Other sections of the volume deal with the work of the inspectors of foods, and with the seasonal and local prevalence of cerebro-spinal fever and poliomyelitis.

The progress of the national measures for combating tuberculosis naturally receives much prominence in Dr. NEWSHOLME'S report. In 1912–13 the Local Government Board completed its programme

[1] Supplement to the Forty-third Annual Report of the Local Government Board. Cd. 7612. London: Wyman and Sons, Fetter-lane: Edinburgh: H. M. Stationery Office; Dublin: E. Ponsonby; Abroad; T. Fisher Unwin. Price 1s. 11d.

for notification of tuberculosis by an Order making all forms of the disease notifiable. The provisions of the National Insurance Act, 1911, as to sanatorium benefit came into operation, the capital grant under the Finance Act, 1911, of one and a half millions for the provision of institutions for the treatment of tuberculosis in the United Kingdom became available, and the Treasury decided to defray one-half of the cost of approved schemes of local authorities for the treatment of tuberculosis in so far as this was not already covered by contributions from insurance funds. During the year which followed all these measures have had to be put into working order by active organisation on the part of the central department, and very effective progress has now been made. By July, 1914, 37 out of 50 county councils and 53 out of 76 county boroughs had received official approval to what are termed "fairly complete" schemes, while others had their proposals under consideration. Only a small minority proposed schemes which were "partial" or limited to the provision of dispensaries. By the same date nearly 200 clinical tuberculosis officers had been appointed, while in nearly all cases the medical officer of health of the county borough or administrative county was appointed administrative tuberculosis officer. Dispensaries have multiplied, and much attention has been given to the provision of sanatorium and hospital accommodation for tuberculous cases. Reckoning sites for new sanatoriums and hospitals already approved, institutional provision will shortly be available for all classes of tuberculous cases at the rate of one bed for every 2557 persons in England. The provision of beds is likely to increase further, and if county boroughs generally follow the lead of Bradford and Sheffield, something like one bed per 1200 of population is likely to be needed to meet the current requirements of pulmonary tuberculosis alone. Provision of dispensaries and beds is, however, only a part of the problem if tuberculosis is to be dealt with systematically on the lines advocated by the Government departments. Success on these lines must depend on the solution of the large number of practical questions which arise in the actual working of a somewhat complicated machinery, and the medical officers and inspectors of the Local Government Board have been indefatigable in giving attention to these working details and in facilitating local arrangements. Dr. NEWSHOLME embodies some of the results in the present report, which contains observations on the classification of cases, the relation of tuberculosis officers to district medical officers of health, the duration of institutional treatment, and many other matters which will be carefully studied by those concerned with this branch of public hygiene. Reference should also be made to a useful memorandum prepared by Mr. J. E. CHAPMAN on "observation beds," based on experience at Sheffield, which sets out the advantages of attaching such beds to tuberculosis dispensaries and placing them under the control of the dispensary medical officer for clinical observation. It seems clear that this arrangement may often prevent unprofitable demands on residential institutions.

For statistics of tuberculosis Dr. NEWSHOLME necessarily depends mainly on death-rates. Notification of new cases cannot yet be said to make a reliable basis for comparison of the prevalence of the disease either in one year with another or in one district with another district. The figures frequently show that counties and boroughs which are high on the list as regards tuberculosis notifications are low in respect of tuberculosis deaths, and *vice versâ*. On the massed figures for all counties, all county boroughs, and all metropolitan boroughs there are at present for pulmonary tuberculosis from 2·0 to 2·5 notifications for every male death, and from 2·1 to 3·4 for every female death; for other tuberculosis the proportion lies between 2·8 and 4·4 notifications to each death, and Dr. NEWSHOLME considers that special inquiry into the completeness of notification is desirable in any district where the notifications of phthisis do not number more than twice the deaths from the disease. In statistical as well as in clinical matters much depends on the extent to which bacteriological aids are used in diagnosis. The report, to which we shall return in more detail in an early issue, records a considerable increase in the arrangements of local authorities for the examination of sputa, while on many other grounds Dr. NEWSHOLME lays stress on the importance of pathological laboratories being established or further developed under the auspices of county councils or municipalities.

Civilian Service and Military Claims.

THE most ardent advocate of conscription recognises that the training of the male population for complete readiness to serve their country as soldiers does not imply that they will all be serving at the same time if war should break out. In actual time of war only a certain proportion of the population can be with the colours. It is all to the good that military training should be widespread, and that material for the regiments should be recruited in a more or less trained condition; but civilian business of the country must be carried on, even with increased activity in many directions, and for this a large body of men is required. A great deal of military work, strictly military work, must be done by people who remain at home, and while some businesses will inevitably decline during war, the ordinary wants of the population at such a time are modified, not abolished. This country, for example, cannot raise, equip, and feed an army of a million without employing many thousands of people in more or less special capacities, while the bulk of the population still remain with their usual, or more than their

usual, demands to be met. In these circumstances the question is constantly arising whether in an individual instance the duty of a citizen is to continue to discharge his civilian service or to respond to the trumpet's call. In the profession of medicine and in that of education many difficult cases have presented themselves, and on looking into them it becomes clear that the decision, though regulated by the general conditions of the country, cannot be made in any general manner. There will be no universal rule that those discharging certain civilian duties are right to leave them, and that those discharging other civilian duties will be right to continue them. Every case must be thought out carefully and the decision come to with a due regard for the welfare of the people. The defence of the country by sea and land will always come first, but it must be that the cause of defence is aptly served by much civilian work. The question can never arise whether it is patriotic of, say, the official of a large railway, who has successfully been responsible for the safe conduct of hundreds of troops, and is wanted to carry on his experienced work, to take a commission as a lieutenant for the good of his country in circumstances where his special knowledge cannot be brought to bear. Here the question does not arise, because we can all see that it is for the good of his country that he should help in our defence by expediting our military movements. But there is no such clear-cut opinion to be given in the case of many other civilian occupations not so closely allied to military service, and the position of the medical officer of health or the educational medical officer is one where real difficulty arises, and where both tact and forbearance should be exercised in coming to a judgment.

The following case has struck us as admirably illustrative. The medical officer of health of the borough of Battersea has been gazetted a lieutenant in the 2nd London Sanitary Company (R.A.M.C., Territorial Force), and it may be added that in these columns we have regularly announced in an inviting manner to our readers similar opportunities. The Finance Committee of the Battersea Borough Council having recommended to the Council that their officer should be allowed the difference between his salary and his service pay and allowances during absence, the chairman of the committee, though he formally moved the adoption of this course, as a councillor spoke against it. Various councillors maintained that the work of safeguarding the health of a populous district at home was as patriotic an action as performing sanitary duties with the army, while in consequence of the growing shortage of medical men it was apprehended that there would be considerable difficulty in obtaining someone to take the vacant place. On the other side, speakers maintained that, when the country called, local matters must be disregarded and all interests sacrificed to those of the empire. These councillors considered that their medical officer had shown true patriotism in exchanging for a subordinate military appointment with its arduous work and probable risks the safety and comfort of home, and they held that if the Council sought to restrain him from taking the commission they would expose themselves to ridicule, and if they treated him ungenerously they would incur public odium. It appeared also that the Council had passed a resolution encouraging their officers and employees to undertake military service and guaranteeing to bring their pay up to their customary salary, but it must be admitted that this resolution, though drawn up in inclusive terms, was not intended to apply to chief officers. That the Battersea councillors perceived the difficulty was shown by the fact that the voting was very close. At first the recommendation of the Finance Committee was declined by one vote, but on a division being taken the odd vote was given on the other side. A proposal to refer the matter back to the Finance Committee was lost, and the Council, by a very narrow majority, decided that the military pay of the medical officer of health should be made up to his official salary during his absence. The difficulty of deciding where the right lies in these cases is thus proved by the course of the voting at Battersea. A somewhat similar position arose at the same time at Wolverhampton, where the civilian authority took a different view with respect to their educational medical officer. At the last monthly meeting of the Wolverhampton Education Committee consideration was given to an application made by the school medical officer of Wolverhampton for leave of absence during the duration of the war that he might accept a commission in the medical department of His Majesty's forces. The committee decided that in the event of the officer accepting a commission it would be impossible satisfactorily to proceed with the school medical service under the advice of a temporary substitute, and that if the commission were accepted by the medical officer steps would have to be taken to appoint a permanent successor. The Education Committee added that if urgent need for their medical officer's services should later arise they would, of course, be willing to let him go.

The different decisions come to by equally responsible and patriotic bodies with regard to the acceptance by their senior administrative officers of commissions, together with the extreme difficulty shown by one of these bodies in coming to a conclusion, sufficiently show that there can be no general rule. The public health of the country and the maintenance of a State scheme of education upon sound sanitary lines are matters of the first importance to all. That our civilian population should not become a burden upon the public purse through sickness, and that our rising generation should be free from disease, comprise the very welfare of the nation, and it must not be lightly jeopardised; our army and navy are fighting for our existence, it is due to them

to see that we maintain an existence worth fighting for. The fighting services have the first claim on all who can serve, but the authorities who are responsible for the health and education of the public deserve to be treated with every consideration by their principal administrators. The longest possible notice should be given to them by such administrators before leave of absence is sought, and it is getting clear that the difficulty of providing substitutes must be taken into consideration. There may soon be a real shortage of medical men. We place the military exigencies first, but all care should be taken that this shortage does not occur in important administrative posts.

Annotations.

"Ne quid nimis."

THE CARE OF THOSE BLINDED IN WAR.

IT is probable that of all the accidental disabilities that can befall a person in the vigour of life none is more distressing or more wholly arouses the pity of all kindly disposed persons than that of complete traumatic blindness. Plunged suddenly into a world of unaccustomed darkness without warning or time gradually to accustom himself to his changed conditions, and gradually to develop compensating methods of intelligence, his lot is terrible indeed. We understand that 22 such sufferers, including two officers and one non-commissioned officer, have up to now been returned from the front. The chances of such an accident happening are, in view of the greater dispersiveness of modern missiles, probably considerably greater than in former wars, and it behoves the country not only to make adequate provision for the skilled care of such patients in the early stages of their injury, so that whatever amelioration of the evil effects is possible may be secured before it is too late, but also to recognise the peculiarly disabling effect of such injuries and to plan for an adequate scheme of compensation. The first object has already been taken up, as was indicated in our "War" column last week, and all soldiers blinded at the front are to be sent straight to the 2nd London General Hospital at Chelsea, where provision is being made for them to receive the best of skilled attendance, so that all that can be done shall be done to mitigate the result. With regard to the second point, Mr. C. Arthur Pearson, President of the National Institute for the Blind, enters a most earnest plea in a letter to the *Morning Post*. He calls attention to the pressing need for special consideration as regards the question of adequate pensions and allowances, for, as he rightly points out, there are many directions in which a blind person has to bear expenses not imposed on those who can see—e.g., the necessity for a guide, which doubles the expenses of travelling. We trust that systematic efforts will be made to deal in a generous spirit with this large subject.

A NEW DISEASE OF RODENTS TRANSMISSIBLE TO MAN.

ABOUT three years ago, when Dr. G. W. McCoy, of the United States Public Health Service, was investigating the distribution of plague among the hordes of ground squirrels which infest many parts of the State of California, he discovered among them what appeared to be a new disease. In conjunction with Dr. Charles W. Chapin he subsequently made a series of experiments on these rodents, as well as on guinea-pigs, white rats, and grey mice, and found that while the lesions caused by the new malady resembled those of plague, further examination demonstrated that the disease was due to a specific organism to which the name of Bacterium tularense was given. Later it was shown that monkeys were also susceptible to this infection, and it was in consequence expected that the disease would be found in man. In a recent communication published in our American contemporary, *Public Health Reports* for Dec. 18th last, Professor W. B. Wherry, of the University of Cincinnati, describes two human instances of this new malady, in which the chief symptoms were acute ulcerative conjunctivitis with enlargement of the preauricular and cervical glands, fever, and marked prostration. The first patient was a man employed as a meat cutter in a cheap restaurant, the second being a farmer's wife. In searching for the source of infection in these human cases Professor Wherry's suspicion fell on ground game, and shortly afterwards it came to his knowledge that wild rabbits were dying in large numbers in Kentucky and Indiana. He procured two of these dead rabbits for examination, and both of them showed the gross lesions caused by B. tularense. Inoculation experiments on laboratory animals conclusively confirmed the diagnosis. One of the above-mentioned patients lived about six miles from the spot where the two dead rabbits were picked up. Professor Wherry believes that this new disease of rodents may be widely distributed and that extensive epizootics may occur with comparative frequency. Both of the persons who were attacked admitted that they had lately been cutting up wild rabbits in preparation for cooking; it is thought probable that they conveyed the virus by unwashed hands. On the basis of animal experiments it is regarded as possible that ulcerative rhinitis, ulcerative or membranous sore throat, gastro-intestinal infection or lymphadenitis, secondary to the skin affection, may also occur as results of the infective process. Susceptible rodents can be infected by feeding or by the introduction of infective material into the eye or nose, or through an abrasion of the skin. McCoy and Chapin, while searching for a mode of transmission of the disease among ground squirrels, succeeded on two occasions in conveying the malady by means of squirrel fleas. Assistant Surgeon N. E. Wayson, of the United States Public Health Service, has published a paper in which he describes the possibility of experimentally transferring B. tularense from infected material to healthy rodents through the agency of stable-flies and also common house-flies. Whether this mode of transmission occurs in nature is not yet proved, but Dr. Wayson is continuing his investigations. As regards prophylaxis, Professor Wherry thinks it advisable to warn all persons who in the course of their duties have to cut up or handle wild rabbits to wash and scrub their hands very carefully

after touching the animals, so as to prevent the transference of the virus to the eyes or other parts of the body where B. tularense might find a point at which to effect an entrance into the human system.

THE TREATMENT OF WOUNDS IN WAR.

IT is very important that we should not fail to recognise that in new conditions new forms of treatment may be needed. In the present war the conditions are in many respects very different from those met with in civil life, and even from those encountered in previous wars; therefore it is necessary that surgeons should have an open mind to consider without prejudice any new method of treatment which may be brought forward. In the present number of THE LANCET we publish a method of treatment of contused and lacerated wounds which Dr. Louis Mencière has employed widely during the present war, and with which he has achieved no small measure of success. It consists essentially in a very free use of antiseptics in the wound, preference being given to the successive application of perchloride of mercury, carbolic acid, and peroxide of hydrogen. This treatment is followed by the daily use of an antiseptic lotion, which he claims destroys septic organisms while not interfering in any way with the life of the cells of the tissues. Dr. Mencière gives a full account of the mode of application of his method in his paper, and to that we refer the reader for fuller particulars.

PITUITRIN IN ACUTE HEART FAILURE.

THE marked action of pituitrin on unstriated and striated muscular fibre, and especially its action on the uterus, has led Professor Zueblin, of the University of Maryland, to use the drug in a condition for which it does not appear to have previously been recommended—failing heart when there is demanded an immediate effect which cannot be obtained from the usual cardiac remedies (digitalis, strophanthus, &c.). In the *Boston Medical and Surgical Journal* of Dec. 24th, 1914, he has reported a series of seven cases thus treated, of which the following are examples. A poorly nourishe' man, aged 33 years, was suffering from syphilis nephritis, and acute dilatation of the heart. The præcordial region was bulging and the apex beat was in the seventh interspace in the anterior axillary line. Cardiac dulness extended 5¾ inches to the left and 3 inches to the right of the midsternal line. A double blowing murmur was heard in the mitral and tricuspid areas. The second pulmonic sound was accentuated. The pulse was 115. One cubic centimetre of pituitrin was injected subcutaneously. On the following day the apex beat was inside the anterior axillary line and cardiac dulness extended to the right sternal border. The pulse was 95 and the patient felt more comfortable and showed marked improvement. A course of digitalis was then given and he gradually improved. The reduction of the cardiac dulness under the pituitrin was remarkable; the transverse diameter diminished 2½ to 3 inches in the 24 hours. In another case a carpenter, aged 66 years, was suffering from aortic stenosis. The præcordium bulged; the apex beat was in the sixth intercostal space outside the nipple line. Cardiac dulness extended 5½ inches to the left of the midsternal line and 2¾ inches to the right. One cubic centimetre of pituitrin was given. On the following day cardiac dulness extended 4½ inches to the left and ¾ inch to the right of the midsternal line. The pulse, which previously was 78, had fallen to 70. The transverse diameter of the cardiac dulness was reduced by 3 inches. In a third case a man, aged 60 years, was suffering from chronic myocarditis, general arteriosclerosis, chronic nephritis, and anasarca. The heart was so dilated that dulness extended 5¼ inches to the left and 3½ inches to the right of the midsternal line. There was a double murmur over the mitral and tricuspid areas, with an accentuated second pulmonic sound. Under digitalis and strophanthus he did not improve. There was fluid in the left pleural cavity reaching as high as the fourth interspace. The patient was dyspnœic, restless, and cyanotic. The pulse was 110, irregular, and compressible. There were albumin and granular casts in the urine. Pituitrin was given, and 24 hours later cardiac dulness extended 4¾ inches to the left and 1¾ inches to the right of the midsternal line, and the pulse was 80. However, death took place two days later. Notwithstanding advanced disease the diameter of the cardiac dulness was reduced 2¼ inches in the 24 hours. Professor Zueblin's cases are suggestive, but not numerous enough for generalisation. It must also be borne in mind that several writers consider heart disease, arteriosclerosis, and kidney disease contra-indications to the use of pituitrin. It may be remembered that obstetricians have also issued warnings against indiscriminate use of the drug. In the case of arterial disease in the aged a sudden increase of blood pressure produced by pituitrin might cause apoplexy. Under such conditions the drug should therefore be given with caution.

CEREBELLAR SYMPTOMS AND LOCALISATION.

AS has not infrequently been the case in the history of medicine, the functions of an organ may appear to be established so satisfactorily by experimental and clinical evidence that under the influence of teaching and text-book description they become "classical." Then in turn the "classical" view is questioned, and after a longer or a shorter period the older terminology disappears as fresh data result in the adoption of an entirely new method of envisaging the clinical facts, which evidently have not themselves changed. Our knowledge of the functions of the cerebellum has been passing through such a transformation. The student has been taught that the "classical" symptoms of cerebellar disease are a swaying, staggering gait, forced movements—"lurching" in one direction or another—ataxia of the limbs, nystagmus, and vertigo. But gradually research has commenced to dismember this cerebellar complex. It is tolerably clear that nystagmus and vertigo are due to concomitant disturbance of the vestibular apparatus at least as much as to implication of the cerebellum itself, if not indeed really independent of cerebellar activity. The familiar ataxia is now known to be a symptom-complex rather than a pure symptom, and its place is being taken by a newer conception, asynergy. In an interesting review of the present situation as regards cerebellar disease in the *Journal of the American Medical Association*, Dr. C. K. Mills and Dr. T. H. Weisenburg, of Philadelphia, define synergy as the power or faculty by which movements more or less complex, but functionally definite, are associated in a special act or acts. In a broad sense it is motor association, this

association being carried out in movements of different parts of the same limb or in synchronous movements of the trunk and limbs, or of the head, trunk, and limbs. When it is defective from cerebellar disease, motor adjustments are mismeasured, and the result is termed dysmetria. This is the expression which is now replacing ataxia. Analysis of the defective movements of the cerebellar patient has been rendered more exact by recourse to the kinematograph. In this way the components of the defective movements are readily traceable, and the contention of the more recent investigators of cerebellar function has been corroborated that the underlying basis of cerebellar symptomatology is asynergy revealing itself in dysmetria. The physician should note, further, that defect in motor adjustments is discoverable not merely in the cerebellar patient's gait, but also in the use of his limbs, unilaterally or otherwise, or in segments of the limbs, as well as in speaking, eating, and in much else that is done by him. This leads in its turn to a further modern conception of great importance—viz., the possibility of localisation in the cerebellum. By means of the kinematograph Dr. Mills and Dr. Weisenburg have shown that asynergy may be confined to the pelvic girdle or to the shoulder girdle, the gait being different in the two cases, though equally cerebellar. They have analysed cases, familiar enough to the neurologist, in which the dysmetria was confined to one limb. They have recorded a case of hæmorrhage into the antero-superior portion of the cerebellum in which the patient showed exquisite asynergy in his tongue, facial and laryngeal movements only. Mastication and deglutition were almost impossible because of the asynergy of the involved musculature. It is true that more research, clinical and pathological, is requisite ere a map of localised cerebellar function can be made out, but the evidence at present available indicates that on the superior surface of the cerebellum the head and eyes, face, jaws, tongue, larynx, pharynx, neck, and trunk are represented more or less in the middle line, and posteriorly round to the inferior surface in the middle line (vermis). On the superior surface, laterally, is the focus for the upper extremity, right and left respectively, with abduction, adduction, extension, and flexion separable. On the under surface is the centre for the lower extremity, in an analogous fashion. It is desirable to recognise that this cerebellar "localisation" is not so precise as cerebral localisation. There is not likely to be an exclusive localisation for a limb or segment of a limb in the cerebellar cortex. Synergic activity of the musculature of the body is so complex that cerebellar localisation must be compound, as it were. But the authors insist with reason that a composite has always within it factors or elements which can to a greater or less extent be separated from the entire mass. The practical significance of recent work on the cerebellum and its activities is that diagnosis becomes distinctly more exact.

VAGOTROPISM IN INFLUENZAL INFECTION.

E. Paganelli has recently drawn attention in *Il Morgagni* to the fact that the Stokes-Adams syndrome is occasionally met with in an acute form during an attack of influenza, and has shown in four patients that bradycardia and neurocentral phenomena peculiar to the Stokes-Adams syndrome, such as syncopal and vertiginous attacks with vomiting, may occur as a special characteristic in some epidemics of this disease. The author's cases afford evidence that bradycardia and the rest of the syndrome may be considered due to an affinity of the toxin towards the vagus without the occurrence of myocardiac lesions or lesions of the nervous centres. The characteristics of the condition were sudden onset, marked instability of the bradycardia and its modification by the action of belladonna and atropine, a cardio-systolic arterial pressure raised in comparison with a co-existing arterial hypotonia, and a more or less rapid recovery. The attacks were of variable duration from a few to several hours, and repeated in some of the patients at intervals of some hours or even of days. The clinical picture was one of gravity, yet in the epidemic of influenza referred to by the author the condition was met with only in four instances out of 40 cases during two months, nor was the course of the disease appreciably aggravated by the occurrence of such acute symptoms.

SELF-REGULATION OF THE GASTRIC ACIDITY.

FOR a considerable time in medical science it has been the established conviction that the acidity of the gastric juice—i.e., the quantity of free hydrochloric acid in man and animals—usually varies from 0·1 to 0·2 per cent. This figure was arrived at by examining the stomach contents but not the pure juice. It was, however, astonishing to find that in the dog's stomach, an isolated portion, the acidity was as high as 0·5 to 0·6 HCl; the same applied to rabbits and cats. Later the pure juice of the stomach was obtained in human beings, and in them also the acidity was from 0·32 to 0·47 per cent. The acidity is also constant. Clinicians, however, still accepted this as definite hyperacidity. And this because no one could explain why the gastric juice from the whole normal stomach as distinguished from isolated portions should almost always contain a lower concentration of acid. The answer now is that the acidity of different acid fluids introduced into the stomach is reduced during their stay in that organ; the reduction of acidity applies also to its own acid juice. How is such reduction effected? Professor Boldyreff, in the *Quarterly Journal of Experimental Physiology* (1914, vol. viii., p. 1), quotes some conclusive experiments to show that such reduction is effected by the alkaline pancreatic juice which regurgitates into the stomach, such action being itself initiated by the acidity. The experiments were performed on dogs. Ligature of the pancreatic ducts results in a definite delay of reduction of acidity; and not only so, with such delay there is also a lessening in the rate of emptying from the stomach. Ligature of other sources of alkali, such as the saliva or the bile, was followed by much less evident diminution of acidity. The fact, too, that the concentration of chlorides in the stomach remains constant shows that reduction of acidity is not due to absorption of the acid by the gastric mucous membrane. In absence, however, of pancreatic juice the acidity can be to some extent lowered by the abundant influx of bile and intestinal juice. Apparently there is a general law which extends to all cases. A portion of the strong acid fluid passing from the stomach into the intestine provokes an abundant secretion, especially of the pancreatic juice; it, moreover, provokes antiperistalsis in the intestine, which drives the alkaline secretion into the stomach until a

sufficient quantity accumulates which is capable of bringing the acidity to the level of about 0·15 per cent. HCl. It is thus easy to reconcile the results obtained by physiologists and clinicians. The initial acidity is 0·5; the final acidity is about a third of this, a degree at which protein digestion in the stomach is most favoured. These facts suggest an explanation of the rapid emptying of the stomach, which radiologists note as indications of duodenal irritation. Many other clinical findings may be illuminated by these useful observations.

PARLIAMENT reopened on Tuesday last, the proceedings being mainly Government business.

The Hunterian Oration will be delivered at the Royal College of Surgeons of England, Lincoln's-Inn Fields, on Monday, Feb. 15th, at 4 o'clock, by the President, Sir W. Watson Cheyne, who has chosen as his subject The Treatment of Wounds in War.

THE CHADWICK LECTURES ON WAR AND DISEASE.[1]

THE last of the three lectures organised by the Chadwick trustees was delivered at the Royal Society of Arts on Jan. 29th by Colonel F. M. SANDWITH, M.D., the subject being "The Great European War." The chair was occupied by Sir H. TRUEMAN WOOD, secretary of the Royal Society of Arts, and the attendance was again a large one.

Colonel SANDWITH said that every campaign had its peculiar medical dangers, and in such a gigantic war as the present one the dangers were manifold, depending on the climate, the people, and even the soil in the fighting areas. Whilst cholera and other diseases were menacing the German and Russian troops, we could recognise the fact that the attention given to hygiene, besides the value of antityphoid inoculation, saved our troops from great loss due to disease. The sick-rate of our troops now at the front was only 3 per cent., and among the Indian troops it was said to be even lower. The following figures relating to typhoid fever were now issued. In the first 421 cases of typhoid fever among the British troops in this campaign 305 were in men who had not been inoculated. In the 421 cases there were 35 deaths, 34 of them in men who had not been inoculated within two years, the other was in a man who had been inoculated once.

One source of trouble in the past had been wound poisoning caused by dirt, and resulting in gangrene and tetanus. The latter had attacked the wounded of our own and the enemy in about equal degree. Generally its spasms were more exhausting than painful; but there was great suffering when the patient had an extensive wound, and the spasms might produce agonising pain. In the worst cases a fatal end was generally reached on the third day, and the symptoms of the disease usually commenced about ten days after the injury. When this interval was abbreviated the case seldom recovered. In the Aisne district tetanus was common among the ordinary population. Brilliant results had followed the use of antitetanic serum prophylactically. The earlier the prophylactic dose was given the more certain was its good effect, but by the time the symptoms were well established the disease had made great progress. The practice now was the following. On the reception of a wound the first field-dressing, consisting of a pad of gauze, was applied by a surgeon, a comrade, or by the patient himself. On arriving at the field ambulance this dressing was changed and the patient removed to the clearing hospital, where the wound was cleaned, if possible, and painted freely with a solution of iodine in spirit. Where needed, the dressing was repeated during the journey to the column or base. Since November a prophylactic injection of antitetanus serum was given to all wounded either at the clearing hospital or the field ambulance. Thanks to the generosity of two anonymous donors, a much-needed improvement in the medical service had lately been added. Hitherto each man had not, like the French soldier, carried his own iodine, but now he did so, in a little glass ampoule, put up by English manufacturers. The importance of this provision it was difficult to overrate.

Gangrene had also claimed its victims in this war owing to the soiling of the wounds, the causal bacillus being that responsible for malignant œdema. The work of Pasteur and Lister finally disposed of the idea that "wound fever" and "hospital gangrene" were spontaneously generated. In 1868 the mortality after amputations in France was 60 per cent.; and a well-known surgeon at the Charité Hospital said, "When an amputation seems necessary think ten times about it, for, too often, when we decide upon an operation we sign the patient's death-warrant." The bacillus of gas gangrene, being an anaerobe, did not infect superficial wounds, but multiplied in deep wounds and lacerated tissue. He described the usual course of a case of gas gangrene and narrated a typical instance. The subjects of it must be strictly isolated from other wounded men. In the Turkish War of 1877 the Turkish and Greek doctors in charge had no disinfectants except a few basins of quicklime. Repeated attempts had been made to supply a vaccine to counteract the bacillus of gangrene, but nothing had yet been achieved to warrant its use on man.

Frost-bite was always liable to occur among troops in cold weather, especially when a high wind prevailed; and if frost-bite did not receive prompt attention it might end in gangrene; and the patient might not be aware of the transition because the freezing process was not a painful one, though that of inducing the blood to return to the part was attended with pain. Sudden warmth killed the tissue and thus precipitated gangrene. In January, 1878, the cold was so intense that 18 of Baker Pasha's sentries were frozen to death in one night, and it became necessary to change the sentries every 15 minutes. Some of the cases of frost-bite in the campaign were grotesque in their ghastliness. Our well-fed and well-clothed soldiers were not likely to suffer so severely from frost-bite, especially as the women of England had shown a veritable passion for knitting warm articles for the soldiers. The problem as to the best clothing for the men in the cold, wet trenches would not be solved by supplying waders, for occasions arose when the soldiers had to move quickly, either in attack or retreat. Perhaps the rubbing of some kind of grease (which would not mix with water) all over the body would be found of some avail. This war differed from other campaigns in its uninterrupted violence. In other struggles there had been lulls during which the combatants could rest and recuperate after periods of excessive strain, for those who had not been at the firing line could not realise the effect on the nerves produced; and the men could only be ensured some respite by organising relays of relief troops. When the first batch of 230 wounded arrived at one of the London hospitals they were in such an exhausted condition that very little could be done for them beyond getting them to bed quickly. They slept the sleep of utter exhaustion, and next day had to be aroused to be washed. But after the first 30 hours they suffered from sleeplessness; they slept lightly, and frequently awoke with a start and shouted, believing they were still being attacked in the trenches. They were not lacking in courage, but the nerve strain had been excessive, though a complaint was practically never heard. Sometimes the shell fire had caused transient paralysis of the lower limbs, loss of sensation to heat and cold, and defective vision.

Dr. Sandwith spoke of the plague of vermin which attended campaigns. Bugs were bearers of certain tropical diseases, and lice were believed to convey dread diseases which had played havoc in camps in the past. The psychic feeling of disgust at harbouring these pests in men who had been accustomed to clean living was a factor to be reckoned with. It was difficult to cope with the trouble, but instructions had been issued to the troops which it was hoped would minimise it.

Relapsing fever was a febrile illness due to spirochætæ in the blood. The mortality from it was not high, but the attendant weakness incapacitated the patient for a long time. Lice had long been suspected as the carriers of relapsing and typhus fevers, but an important factor in the process seemed to be the scratching of the irritating lesion. Lice must be regarded as a menace to ultimate victory, and

[1] Reports of the first and second lectures appeared in THE LANCET of Jan. 23rd (p. 105) and 30th (p. 247) respectively.

we could not contemplate defeat by disease any more than by armies; hence every soldier should be impressed with the necessity of ridding himself of these pests.

This lecture was also illustrated by some very interesting slides, and the thanks of the audience, voiced by the chairman, were very warmly accorded to Dr. Sandwith.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on Jan. 28th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted Members of the College: Jivraj Narayan Mehta, M.D. Lond., L.R.C.P., John Tattersall, M.D. Lond., L.R.C.P., and William Wilkinson Uttley, M.B., Ch.B. Vict., L.R.C.P. (Lymm, Cheshire).

Licences to practise physic were granted to 114 gentlemen who had passed the necessary examinations.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England: Kishori Lál Chandry, M.B., B.S. Punjab, Punjab and University College; Noormahomed Kasembhai Chohan, L.M. & S. Bombay, Bombay and Cambridge; Herbert William Fankhauser, M.B., Ch.B. Melb., Melbourne and R.I. Pub. Health; Thomas Marlin, M.D., Ch.B. Glasg., Glasgow and University College; Lucy MacBean Ross, M.B., Ch.B. Glasg., Glasgow and University College; and Andrew James Shinnie, M.D., Ch.B. Aberd., Aberdeen and University College.

The PRESIDENT announced that he had appointed Dr. Sidney Coupland to be the Harveian orator for 1915, and Dr. J. Michell Clarke to be the Bradshaw lecturer for 1915. Also that the Council had appointed Dr. Samson G. Moore (medical officer of health of Huddersfield) to be the Milroy lecturer for 1916.

The following communications were received. From the Secretary of the Royal College of Surgeons of England, dated Dec. 12th, 1914, and Jan. 15th, 1915, reporting proceedings of the Council of that College on Dec. 10th, 1914, and on Jan. 14th, 1915, respectively.

Dr. A. G. Barrs, Dr. H. G. Turney, Dr. H. Morley Fletcher, and Dr. L. Humphry were elected councillors.

Sir Francis Champneys, Bart., was elected a Representative of the College on the Central Midwives Board for one year from April 1st next.

Mr. Mark Lemon Romer, K.C., was elected a senior standing counsel to the College in the place of Lord Parmoor.

Sir Dyce Duckworth, Bart., was re-elected as Representative Member of the Court of the University of Liverpool. Dr. S. H. West was re-elected a Representative Member of the Court of Governors of the University of Birmingham.

A report was received and adopted from the representative of the College on the General Medical Council.

After some further formal business the PRESIDENT dissolved the Comitia.

TYPHUS FEVER IN DERRY.—An outbreak of typhus fever has occurred in Derry to the extent of nine cases in the lower-lying badly drained parts of that city where there are many dry closets. It is hoped that the epidemic is now over.

THE WOMEN'S IMPERIAL HEALTH ASSOCIATION.—The annual meeting of this association was held at the offices at 7, Hanover-square, W., on Jan. 20th, when Dr. R. Murray Leslie took the chair. He reviewed the year's work of the association, the last five months of which had been largely influenced by the war. Among many other activities the association had undertaken the organisation of the Health and Social Section of the Women's Emergency Corps, and had registered over 1900 voluntary workers and placed 1364 of these in useful work. The association had also started a Women's Club. The chairman referred also to the many other branches of work, all of which had been proceeding satisfactorily. The annual report can be had on application to the secretary.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Fleet-Surgeon William Ernest Marshall has been placed on the Retired List (dated Jan. 20th).

The following appointments are notified:—Fleet-Surgeon: W. H. O. Garde to the *Revenge*. Surgeon: M. F. Caldwell to the *Vivid*, additional, for disposal. Temporary Surgeons: W. H. W. Cheyne to the *Soudan* Hospital Ship; J. S. Jobson to the *China* Hospital Ship; W. L. Anderson to the *Pembroke III.* for R.N. Air Service; and F. A. Williamson to the *Pembroke*, additional, for disposal.

The undermentioned have been granted temporary commissions as Surgeons in His Majesty's Fleet:—David Revell Bedell-Sivright and George Stivala Aspinall.

ROYAL NAVAL RESERVE.

The undermentioned Acting Sub-Lieutenant has been promoted to the rank of Sub-Lieutenant:—Dated Dec. 2nd, 1914: Nigel Adrian Macqueen.

The undermentioned have been granted temporary commissions as Surgeons in His Majesty's Fleet:—Dated Jan. 26th: Weir Burns Cunningham and William Little Glegg. Dated Jan. 27th: Alfred George Stewart and Dundas Simpson MacKnight.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon: T. Turner to the *Pembroke*, additional, for Chatham Hospital.

ARMY MEDICAL SERVICE.

Colonel Robert Porter is retained on the Active List under Article 120 Royal Warrant for Pay and Promotion, and to be Supernumerary (dated Jan. 31st).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors:—Dated Jan. 31st: Albert E. B. Wood, James B. Meldon, Charles Bramhall, and Henry T. Stack.

The undermentioned Lieutenants to be Captains:—Dated Jan. 28th: Basil H. H. Spence, William B. Laird, Robert Davidson, Herbert S. Blackmore, James M. Elliott, Francis R. B. Skrimshire, Douglas W. Bruce, Thomas E. Osmond, Richard T. Vivian, Edward G. H. Cowen, Leonard Buckley, William L. Webster, Edward B. Allnutt, Stanley P. Sykes, Harry C. Todd, Henry J. G. Wells, Ernest C. Deane, Frank S. Tamplin, Ivor R. Hudleston, William Stewart, Alexander G. J. MacIlwaine, and Arthur S. Heale.

The undermentioned officers, Home Hospitals Reserve, are granted the temporary rank of Captain:—Dated August 6th, 1914: J. E. Moorhouse. Dated August 14th, 1914: D. M. Barry. Dated Jan. 4th: A. B. Leakey.

The undermentioned to be temporary Captains:—Dated Dec. 28th, 1914: Temporary Lieutenant Robert Higham Cooper. Dated Jan. 6th: Charles Ravenscroft Stewart. Dated Jan. 15th: Henry Wynyard Kaye.

The undermentioned to be temporary Lieutenants whilst serving with the Red Cross Hospital, Netley:—Dated Jan. 19th: Donovan Blaise Pascall and Walter Gibson Marsden.

The undermentioned to be temporary Lieutenants:—Dated Oct. 12th, 1914: Alfred Squire Taylor. Dated Dec. 18th, 1914: Edward Forbes. Dated Jan. 1st: Robert Hilton Hutchinson, William Herbert Clements, and James Douglas Driberg. Dated Jan. 2nd: Ernest Leon Maunsell Hackett, Conwy Llewellyn Morgan, and Anthony Hagarty Corley. Dated Jan. 4th: Ralph Anderson Hughes. Dated Jan. 7th: Harold Benjamin Day, Harold Kempsey, Thomas Burns Marshall, Daniel Brough, Edward Verdon Russell Fooks, Thomas Langton Butler, George Fitzjames Darker, Herbert Eustace Clarke, Robert Wilkinson Greatorex, and Howard George Pesel. Dated Jan. 9th: Robert Cecil Leonard, Jerome O'Flynn, and Bernard Charles Tennent. Dated Jan. 10th: Arthur Riley, Frederick Harris, William Edgsworth David, Walter Timothy James, Robert Kay Nisbet, and Thomas Marron. Dated Jan. 11th: Henry Speldewinde de Boer, George Alexander Connell Gordon, and David Heron. Dated Jan. 12th: Humphrey Rivers Pollock, Cyril Aubrey Smallhorn, Bernard Ernest Wall, Robert James D'Arcy Irvine, Finbar John Hunt, Albert Jones, Robert Francis Jones, Robert Yelverton Stones, and George Oliver Maw. Dated Jan. 14th: Arthur Hines. Dated Jan. 15th: Walter Winslow, Douglas Green, Arthur Charles Douglas Firth, Cecil Banting, Claude Hollingworth Philips, Thomas Joseph Kelly, Clive Justin Hicks Sharp, Charles Francis Orr White, Robert Campbell Begg, Ernest Stewart Dixon, and Maurice Mackenzie.

The undermentioned relinquish their temporary commissions with the Allied Forces Base Hospital:—Dated Feb. 1st: Captain Norman Duggan, Captain Sidney B. Radley, Lieutenant Douglas E. Derry, and Lieutenant Robert Henry Liscombe.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant William O. Lodge resigns his commission.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Scottish Horse Mounted Brigade Field Ambulance: John Eaton Lascelles to be Lieutenant.

3rd West Riding Field Ambulance: Lieutenant Ernest White, from Attached to Units other than Medical Units, to be Lieutenant.

3rd Southern General Hospital: Major Arthur P. Dodds-Parker to be Lieutenant-Colonel (temporary). Captain Robert Ritson to be Major (temporary).

1st London (City of London) Sanitary Company: William Dyer Frazer (late Surgeon-Captain, Rand Rifles) to be Lieutenant.

2nd South-Western Mounted Brigade Field Ambulance: Major John R. Benson to be Lieutenant-Colonel (temporary.)

South-Eastern Mounted Brigade Field Ambulance: Charles Edward Silvester (late Surgeon-Captain, Surma Valley Light Horse) to be Lieutenant.

1st Northern General Hospital: James Leslie Wilson (late Second Lieutenant, Unattached List for the Territorial Force) to be Captain, whose services will be available on mobilisation.

2nd Southern General Hospital: Robert James Irving to be Lieutenant.

4th Scottish General Hospital: Lieutenant James H. Martin, from Attached to Units other than Medical Units, to be Captain, whose services will be available on mobilisation.

Sanitary Service: Major Charles M. Fegen, from 2nd London Sanitary Company, to be Sanitary Officer of the 2nd London (Reserve) Division.

Supernumerary for Service with the Officers Training Corps: The undermentioned to be Lieutenants for service with the Medical Unit, University of London Contingent, Senior Division, Officers Training Corps: William Gilliatt, Richard Drummond Maxwell, and John Henry Ryffel.

North Midland Mounted Brigade Field Ambulance: Arthur Wellesley McClelland to be Lieutenant.

3rd Home Counties Field Ambulance: Captain William D. Sturrock, from the Unattached List for the Territorial Force, to be Captain (temporary).

3rd South Midland Field Ambulance: Lieutenant James G. McLannahan, from Attached to Units other than Medical Units, to be Lieutenant.

Attached to Units other than Medical Units.—Captain Lawrence C. V. Hardwicke is seconded. Lieutenant Gerald R. Rickett to be Captain (temporary). Lieutenant George F. R. Smith is seconded. To be Lieutenants: Joseph Patrick Fagan and Evan David Richard. Lieutenant Patrick Black and Lieutenant Kenneth Mackinnon resign their commissions.

Unattached List for the Territorial Force.—Second Lieutenant James L. Wilson resigns his commission.

Officers Training Corps.

University of London Contingent, Senior Division: Lieutenant Philip Henry Mitchiner to be Captain (temporary).

TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force:—Army Medical Staff: Colonel James Harper. Royal Army Medical Corps: 1st West Lancashire Field Ambulance: Lieutenant-Colonel John J. O'Hagan and Major Henry D'A. Blumberg (attached to the 7th Battalion, The King's (Liverpool Regiment)).

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The November, 1914, issue of this journal, publication of which has been delayed owing to the war, contains among articles of topical interest a communication from Lieutenant-Colonel C. B. Lawson and Lieutenant Beckwith Whitehouse detailing the method of treating acute emphysematous gangrene by injection of hydrogen peroxide, which was referred to in a leading article in our columns last week. Colonel Sir Anthony A. Bowlby and Lieutenant S. Rowlands's joint report on gas gangrene, which was published in THE LANCET of Nov. 28th, 1914, p. 1265, also finds a place in this issue. Captain R. G. Archibald contributes a preliminary report on Some Further Investigations on Kala-Azar in the Sudan, and Colonel T. W. Gibbard discusses the apparatus required and the technique employed in the intravenous injection of neosalvarsan in concentrated solution.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Robert Burnet, 1st Wessex Field Ambulance, Territorials, on Jan. 28th, the result of an accident while riding between Newton St. Cyres and Exeter. Lieutenant-Colonel Burnet was medical officer of health for Cornwall.

Colonel Richard Exham, C.M.G., late R.A.C.M., recently, in his sixty-seventh year. He entered the army in 1871, and served in the South African War, 1899–1901, when he was principal medical officer to the Natal Field Force, and was present at the defence of Ladysmith (twice mentioned in espatches, and Queen's medal with four clasps). He retired in 1903.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last census, 8938 births and 6693 deaths were registered during the week ended Saturday, Jan. 30th. The annual rate of mortality in these towns, which had declined from 21·3 to 18·0 per 1000 in the four preceding weeks, rose in the week under notice to 19·2 per 1000 of their aggregate population, estimated at 18,134,239 persons at the middle of 1914. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 18·9, against 19·6 per 1000 in London. The annual death-rate last week ranged from 9·9 in Swindon, 10·3 in Edmonton, 11·3 in Grimsby, 11·7 in Hornsey, and 13·1 in Wimbledon, to 28·8 in Merthyr Tydfil, 29·1 in Wigan, 30·0 in Ipswich, 30·3 in Rotherham, and 23·6 in Carlisle.

The 6693 deaths from all causes were 434 in excess of the number in the previous week, and included 483 which were referred to the principal epidemic diseases, against 454 and 479 in the two preceding weeks. Of these 483 deaths, 191 resulted from measles, 99 from whooping-cough, 77 from diphtheria, 73 from infantile diarrhœal diseases, 31 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·4 per 1000, and coincided with that recorded in the previous week. The deaths attributed to measles, which had been 183, 195, and 206 in the three preceding weeks, fell to 191 last week, and caused the highest annual death-rates of 1·8 in Preston, 2·1 in St. Helens, 2·3 in Newport (Mon.), 2·6 each in Stockton-on-Tees and Gateshead, 2·7 in Plymouth, 3·1 in Newcastle-on-Tyne, 4·0 in Rotherham, 5·1 in Wigan, and 7·0 in Darlington. The deaths referred to whooping-cough, which had been 93, 76, and 93 in the three preceding weeks, further rose to 99 last week; the highest recorded rates from this cause were 1·4 in Bristol, 1·6 in Brighton, 1·7 in Tynemouth, 1·9 each in Dewsbury and Barnsley, 2·0 in Sunderland, 2·4 in Rotherham, 2·8 in Bootle, and 4·3 in Merthyr Tydfil. The fatal cases of diphtheria, which had been 77, 63, and 83 in the three preceding weeks, fell to 77 last week, and included 16 in London, 5 in Sheffield, 4 in Birmingham, and 3 each in Manchester, Bradford, and Newcastle-on-Tyne. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had declined from 86 to 62 in the four preceding weeks, rose to 73 last week, of which 21 were recorded in London, 5 each in Liverpool and Leeds, and 4 in Manchester. The deaths referred to scarlet fever, which had been 35, 34, and 23 in the three preceding weeks, rose to 31 last week, and included 6 each in London and Manchester, 4 in Birmingham, and 2 in Plymouth. The fatal cases of enteric fever, which had been 15, 11, and 12 in the three preceding weeks, were again 12 last week, of which 2 each occurred in Stoke-on-Trent, Bolton, and Newcastle-on-Tyne.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily declined from 5035 to 3836 in the nine preceding weeks, had further fallen to 3647 on Saturday last; 326 new cases were admitted during the week, against 321, 338, and 308 in the three preceding weeks. These hospitals also contained on Saturday last 1632 cases of diphtheria, 126 of measles, 51 of enteric fever, and 28 of whooping-cough, but not one of small-pox. The 1757 deaths from all causes in London were 160 in excess of the number in the previous week, and corresponded to an annual death-rate of 20·3 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 562 to 417 in the four preceding weeks, rose to 450 in the week under notice, and were 25 above the number recorded in the corresponding week of last year.

Of the 6693 deaths from all causes, 245 resulted from different forms of violence and 519 were the subject of coroners' inquests, while 1900 occurred in public institutions. The causes of 63, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, and in 65 other smaller towns. Of the 63 uncertified causes 15 were registered in Birmingham, 7 in Liverpool, 6 in Gateshead, 3 each in Nottingham, St. Helens, and Darlington, and 2 each in London, Southend-on-Sea, Rochdale, Halifax, Sunderland, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,345,500 persons at the middle of this year, 1196 births and 1009 deaths were registered during the week ended Saturday, Jan. 30th. The annual rate of mortality in these towns, which had been 24·5, 22·8, and 21·7 per 1000

in the three preceding weeks, rose to 22·4 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 22·9, against 18·9 per 1000 in the large English towns. Among the several towns the death-rate last week ranged from 8·8 in Motherwell, 15·2 in Clydebank, and 16·2 in Perth, to 28·4 in Coatbridge, 33·5 in Dundee, and 39·5 in Falkirk.

The 1009 deaths from all causes were 32 in excess of the number in the previous week, and included 128 which were referred to the principal epidemic diseases, against 92 and 98 in the two preceding weeks. Of these 128 deaths, 82 resulted from whooping-cough, 15 from infantile diarrhœal diseases, 12 from scarlet fever, 10 from diphtheria, 6 from measles, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·8, against 1·4 per 1000 in the large English towns. The deaths attributed to whooping-cough, which had increased from 28 to 58 in the five preceding weeks, further rose to 82 last week, of which 45 occurred in Glasgow, 25 in Dundee, 4 in Edinburgh, and 2 each in Aberdeen, Leith, and Motherwell. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 17, 7, and 8 in the three preceding weeks, rose to 15 last week, and included 8 in Glasgow and 2 in Dundee. The fatal cases of scarlet fever, which had been 13, 9, and 16 in the three preceding weeks, fell to 12 last week, of which 6 occurred in Glasgow and 2 in Paisley. The deaths attributed to diphtheria, which had been 21, 10, and 8 in the three preceding weeks, rose to 10 last week, and included 3 in Glasgow and 2 each in Edinburgh and Aberdeen. The deaths referred to measles, which had been 7 in each of the three preceding weeks, were 6 last week, and comprised 3 in Dundee, 2 in Greenock, and 1 in Paisley. The 3 fatal cases of enteric fever were registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 265, 275, and 233 in the three preceding weeks, rose to 272 in the week under notice; 30 deaths resulted from different forms of violence, against 35 and 30 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,212,330 persons at the middle of this year, 680 births and 575 deaths were registered during the week ended Saturday, Jan. 30th. The annual rate of mortality in these towns, which had declined from 27·8 to 24·0 per 1000 in the four preceding weeks, rose to 24·7 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 24·9, against 18·9 and 22·9 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 29·8 in Dublin (against 20·3 in London and 21·6 in Glasgow), 20·4 in Belfast, 26·5 in Cork, 21·5 in Londonderry, 20·3 in Limerick, and 32·3 in Waterford, while in the 21 smaller towns the mean death-rate was 22·9 per 1000.

The 575 deaths from all causes were 18 in excess of the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against 48 and 35 in the two preceding weeks. Of these 32 deaths, 11 resulted from whooping-cough, 8 from infantile diarrhœal diseases, 4 each from measles and scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was eqqal to 1·4, against 1·4 and 2·8 per 1000 in the English and Scotch towns respectively. The deaths attributed to whooping-cough, which had been 11, 10, and 9 in the three preceding weeks, rose to 11 last week, and included 4 in Dublin, 3 in Belfast, and 2 in Dundalk. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 11, 14, and 4 in the three preceding weeks, rose to 8 last week, and comprised 5 in Dublin and 3 in Belfast. The fatal cases of measles, which had been 6, 12, and 15 in the three preceding weeks, fell to 4 last week, and comprised 2 each in Dublin and Belfast. The 4 deaths attributed to scarlet fever, of which 3 were registered in Belfast and 1 in Dublin, were equal to the average in the three preceding weeks. Of the 3 deaths referred to diphtheria, 2 were recorded in Cork and 1 in Kilkenny. The fatal cases of enteric fever occurred in Dublin and Clonmel.

The deaths referred to diseases of the respiratory system, which had been 139, 164, and 137 in the three preceding weeks, rose to 160 in the week under notice. Of the 575 deaths from all causes, 194, or 34 per cent., occurred in public institutions, and 12 resulted from different forms of violence. The causes of 19, or 3·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the English towns the proportion of uncertified causes did not exceed 0·9 per cent.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

French Medical Men in the Army.

Professor Tuffier, at the annual meeting of the Société de Chirurgie, recalled the era of 1871, when the same enemy defiled the soil of France, and paid a well-merited tribute to the devotion of the French Military Medical Service. He expressed a cordial greeting to those doctors who had the perilous honour of serving at the front, and made a rapid survey of the work done and the courage displayed by the medical service since the beginning of the war. At the end of December, of the 14,000 French surgeons on military duty 6500 were still serving with the armies, while 1300 had been placed *hors de combat* (93 killed, 260 wounded, 440 missing, and 507 invalided). M. Dercle, médecin-major of the first class, who is now under treatment, sustained near Mézières 97 shrapnel wounds. Medical officers have been mentioned in orders 155 times, and there have been awarded to them 15 ribbons and 63 crosses of the Legion of Honour, also 11 military medals. Professor Tuffier related what he had seen and heard at the front concerning medical officers who, having fallen into the hands of the German medical officers, were robbed, not only of their canteens and surgical instruments, but of their cloaks and their crosses, everything, even their spurs, being taken from them. He also described how a German officer at Mercy-le-Haut robbed and tried to murder an auxiliary medical officer, an interne of the hospitals, and told how a German patrol of Pomeranian infantry murdered 40 wounded.

The Health of Paris.

The mobilisation of a large number of medical men for the armies gave rise to a dread of what might happen from a paucity of medical practitioners. This fear, however, has proved unfounded. It is true that medical men of all ages are liable to mobilisation, but there still remain at their civil posts those on the Retired List, the auxiliaries not called up, and those yet mobilisable whose class has not yet been called on and who have not applied to be attached for service, as well as a considerable number of foreign medical men. The hospitals go on as usual in all their departments, the absent medical staff being replaced by an increasing number of *confrères*. The general condition of Paris is, moreover, excellent, and this is due to several causes: there are fewer vehicles in the streets, and hence fewer floating microbes; the consumption of alcohol has markedly diminished, consequently there is less drunkenness. Notwithstanding the mass of refugees, naturally in a state of great depression and frequently accommodated most uncomfortably, the number of appeals for free assistance is not in excess of what was the case before the commencement of hostilities. Evidently the medical men of Paris cannot spare themselves, but they are not worrying over it. The drugs that have become exhausted are easily replaceable, for the German products which before the war were used in large quantities all have their French equivalents.

Medical Life in Paris.

Before the Académie de Médecine M. Sieur has urged the necessity for no delay in the disinfection of wounds, particularly shell wounds, to

prevent tetanus. Ragged wounds especially must be trimmed and cleaned. M. Dalimier reported that he had successfully treated with autovaccines prepared at the Institut Pasteur certain cases of pus-infected wounds that had proved refractory to every other treatment. M. F. Debat said that he had used Jacquet's biokinetic method in the treatment of frost-bites, and that by this means soldiers carried to his service who were incapable of walking, whose feet were œdematous and ulcerated, were completely cured in eight days. M. Jousseaume proposed the use of tobacco smoke against body lice. Another method is to place the clothing infested with these parasites on an ant-hill. The ants will make short work of the parasites. M. Quénu showed that gaseous gangrene does not appear to be a clinical morbid entity, but constituted the last stage of all gangrene of wounds. It is therefore important to deal with such wounds energetically from the very onset of the gangrene, even when the general aspect is benign. Trimming the wound is the first measure. Injections of oxygenated water or of oxygen have not established their value and can be recommended only as adjuvants to trimming. This process should be practised without general anæsthesia, and should be followed by disinfection of the wound. In 12 new cases in which M. Quénu has used this method he has had no occasion to resort to amputation. M. Belbèze showed that colloidal gold finds a therapeutic indication in the surgery of war whenever serious infections are found, whether operative or not, generalised or localised, and in extended suppurating wounds. M. Lannos and M. Chavanne have shown that gun deafness may be related to lesions of cerebral origin or to psychic troubles, or that it may attack the labyrinth itself and be accompanied by fracture of the cranium or of the petrous bone, by ruptures of the tympanum, or again may present no other manifestation than a concussion of the labyrinth. M. Darier pointed out that, speaking generally, serums are indicated in acute infections with fulminant and febrile manifestations, while vaccines are more suitable in atonic, chronic, and well-localised conditions, in the treatment of ocular tuberculoses. Before the Société de Chirurgie M. Michaux related his method of treating penetrating wounds of the chest in the surgery of war. From the author's observations it is clear that hæmothorax following on penetrating wounds of the chest from gunshot and other wounds of warfare presents itself under two different aspects: the one serious, in which death ensues in a few days, the other of less grave prognosis and susceptible of cure by good drainage and postero-inferior thoracotomy. M. Sencert dealt with the treatment of penetrating wounds of the abdomen in ambulances at the front. In view of the impossibility of interfering under satisfactory circumstances and with adequately sterilised material, the author says that one should content oneself in such cases with immediate and absolute immobilisation, withholding all food. Cure will result in those cases in which a clot obliterates the bleeding vessel or in which adhesion closes a perforated coil of intestine. It is physically impossible for the surgical personnel of the ambulance, when in less than a day the necessary surgical attention has to be given to from 250 to 300 wounded, to devote the greater part of the time to doing a few laparotomies. Out of 66 wounded abdomens that M. Sencert has seen treated in this way, of which it was possible to follow up 58 completely, 45 died and 13 were cured. M. Auvray has done since the end of August 25 trepannings for gunshot wounds of the cranium. Nine cases were of wounds relating exclusively to the cranial vault, and 16 cases in which the cranial walls, the meninges, and the brain were involved.

Jan. 30th.

Correspondence.

"Audi alteram partem."

FLOUR PRICES AND BREAD MANUFACTURE.

To the Editor of THE LANCET.

SIR,—With reference to the article in THE LANCET of Jan. 30th on the Dearer Loaf I should like to point out that, assuming a continued increase in the price of wheat, our consideration ought to be given not only to the material from which the loaf is made, but also to the actual method of its manufacture. In this connexion aeration of the dough, as distinct from raising it by yeast, is worthy of our serious attention. It is a well-known fact that in the raising of dough by fermentation a considerable loss of nutritive material takes place. This loss has been estimated by different observers at from 2·1 to 4·2 per cent., and is mostly represented by the production of alcohol which, since the finished loaf rarely contains more than 0·3 per cent. of this substance, is practically entirely wasted. Graham estimated that 300,000 gallons of alcohol were lost yearly in London in this way. With regard to the loss of bread, Liebig calculated that by using fermentation for the raising of the dough in Germany sufficient bread was lost daily to provide the then German army with their daily bread ration. If we consider a population of 40,000,000 and assume that it requires half a pound of bread per head per diem, and that the loss of material by the fermentation process of dough raising is 1 per cent., we shall find that if we use aeration for the dough raising we shall be able to make in the latter case enough bread from the same quantity of flour to feed an extra 400,000 individuals at the same rate of consumption per diem. There are many methods of aeration, all of them technically quite simple. There are no facts tending to show that aerated bread is less digestible or less nutritious than ordinary bread, and the process of aeration is applicable to all kinds of flour. To many palates aerated bread has a less appetising taste than ordinary bread, but, *inter arma silet gustus*.

I am, Sir, yours faithfully,

F. W. TUNNICLIFFE.

Harley-street, W., Feb. 2nd, 1915.

TUBERCULIN TREATMENT OF PULMONARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—It is gratifying to find from Dr. N. D. Bardswell's article on the Value of Tuberculin, published in THE LANCET of Jan. 9th, that he has joined the small band of protagonists of the method.

The outstanding, and indeed the only unchallengeable, figures of his article are, of course, those referring to the bacillary findings, which are

tantamount to a statement that, no matter how rigidly controlled such figures may be, it is impossible to evade the fact that tuberculin, judged even from the immediate results of a few months' treatment, is of considerable therapeutic value—a fact which, by the way, suggests that, in the majority of cases at least, a trial of this treatment is not only justifiable but definitely indicated. The tables of general results, which admittedly do not point the same moral, are unfortunately inadmissible as scientific evidence. In the first place it is generally recognised that clinical examination alone is insufficient evidence on which to found definite statements as to arrest, and that the gross, unstandardised changes on which are based such elastic terms as "much improved," "improved," &c., are to be found in the majority of cases (tuberculin-treated or not) suddenly translated from normal to sanatorium existence; this, apart from the fact that within a few weeks of dismissal these judgments might have to be entirely altered. Moreover, Dr. Bardswell, whilst attempting to mix incompatibles—to wit, "arrests" and "much improveds"—has omitted to state (1) whether in all cases the diagnosis of T.B. + was made on identical methods of examination of sputum; (2) what the average stay in the sanatorium was in each group; and (3) the average duration of specific treatment in the tuberculin groups. More important still, he does not indicate what was the method of selection of tuberculin cases, and whether the selection and treatment were carried out invariably by the same person. If, as one part of the article seems to suggest, selection was made by actual trial injections, then a percentage of early and favourable cases must have been omitted from the tables, because the sensitive reaction of many such cases is notorious; if, on the other hand, selection depended on clinical signs or temperature or general condition on admission (and this so generally poor), then a percentage of advanced or slightly febrile cases must have been omitted, cases which are recognised to improve most astonishingly during a course of tuberculin. The question of administration, either by the same individual or at least by a series of unbiassed observers using identical methods, is the more crying that many of the recent reports "on the value of tuberculin" have really merited the title of reports "on the value of tuberculin when given tentatively" or "experimentally," or "grudgingly," or "in an amateur fashion." There is one other point which deserves notice, although perhaps it is a minor one, and it is that the dangers noted after reactions—i.e., extension of disease, increased activity, pleurisy and pneumothorax—are, unfortunately, as the Registrar-General will testify, the dangers of the disease itself. At the same time, one can cordially agree with Dr. Bardswell in his appeal for a more scientific and critical spirit in the investigation of the value of tuberculin, always keeping in remembrance that critical investigation ought, in point of time, to follow scientific observation, because even in the kingdom of therapeutics the critic does not of necessity constitute the artist.

I am, Sir, yours faithfully,

EDWARD G. GLOVER.

Salterley Grange Sanatorium, Jan. 18th, 1915.

*** We had Dr. Bardswell's communication some time before its appearance, and take the responsibility for its tardy publication.—ED. L.

AORTIC AND MITRAL REGURGITATION.

To the Editor of THE LANCET.

SIR,—In an annotation in your issue of Jan. 30th (p. 244) you mention the proceedings of the Société Médicale des Hôpitaux of Paris, at a recent meeting of which society cases of aortic incompetency, occurring in soldiers returned from active service, were recorded. There can be no doubt as to the diagnosis in these cases, as the French physicians are such expert auscultators. But it would be of much interest to learn whether in those cases with aortic regurgitation who had successfully borne the exertions of severe fighting there was any evidence of mitral incompetence also.

I have before this pointed out the advantages which accrue to a patient who, having aortic regurgitant disease, has in addition mitral regurgitation. Dyspnœa is less urgent, and they perform muscular feats which are quite beyond those who only have aortic incompetence. And when one considers the close proximity of one segment of the aortic valve with the lower or right flap of the mitral valve, it is difficult to know why a rheumatic poison which attacks an aortic valve does not extend its ravages to the mitral. I believe in a great number of cases this extension of endocarditis does take place, for the fibrous tissue of the two adjoining flaps is confluent. But in many cases this injury is limited to one valve only, the aortic, and in these I should have expected that dyspnœa would have been a disabling condition. I hope shortly to record some cases tending to confirm this point.

I am, Sir, yours faithfully,

Seymour-street, W., Feb. 1st, 1915. SEYMOUR TAYLOR.

FAITH AND ASTIGMATISM.

To the Editor of THE LANCET.

SIR,—Dr. S. Johnson Taylor's letter under the above heading in your issue of Jan. 30th is typical of the position taken up by those who, having no faith themselves, cannot realise there may be something in the claims of those who have faith, and he is therefore prepared to put down the results obtained by the latter to the effect of "black magic" acting on those whom he classes under the heading of that blessed word "neurotic," and considers that as a sufficient explanation. I am quite sure those of us who do believe in prescribing very low cylinders for constant wear do not consider only the refraction as being the sole cause of insomnia; at any rate, it is my habit as a result of some years' experience in general practice to make inquiries on such details as constipation, digestion, &c.

As Dr. Taylor says, "the proof of the pudding," &c., may I quote the following case? Several years ago a patient, not a "neurotic," consulted an ophthalmic surgeon of repute; he was given a prescription 0·50 D. cyl. axis vertical each eye, and told that he had very slight astigmatism, and it was doubtful if it caused his symptoms (depression, headaches), so the glasses might be worn for three months, and then if no relief was obtained they could be left off (judging from your correspondent's letter one would imagine he was speaking). Naturally, the surgeon having doubt, the symptoms did not disappear. After the lapse of some years another surgeon was consulted. He found that the astigmatism was 0·50 D. in one and 0·75 D. in the other eye. Glasses of this strength

were prescribed for constant wear, with the result the patient's headaches and fits of depression ceased.

The fact is, these cases require a great deal more care to be taken in estimating the amount of refractive error and its correction than some surgeons are able or willing to give; it is not sufficient to do a retinoscopy, place the correcting lenses thus found in the trial frame, record the effect, and then write the prescription. The objective examination is only a means to an end; the end is the result obtained subjectively, and to get this perfect entails investigation not only with the ordinary Snellen's type but with Prey's letters, and the astigmatic fan, checking the upshot with crossed cylinders, and finally, each eye having been tested separately, a trial should be made with both eyes together.

I am, Sir, yours faithfully,

Harley-street, W., Jan. 30th, 1915. REGINALD EVERSHED.

FROST-BITE.

To the Editor of THE LANCET.

SIR,—In the various articles on frost-bite no really specific treatment has been suggested, and I venture to call attention to a remedy which I and my colleagues, Dr. P. G. Lewis, Dr. J. H. F. Wilgress, and Dr. T. Streatfeild, have found effective at the Army Nursing Homes at Folkestone. Peroxide 5 per cent. solution with tincture of iodine 1 drachm to the pint, applied as a compress for 12 hours, followed by dry boracic wool bandages. These applications relieve the pain, and the capillary circulation is improved, the sores are healed, and the sensation in the toes soon returns. Tried side by side with other remedies, this procedure has given far and away the best results.

Many of the cases appear to be caused by constriction of the vessels, due to wet and contracted garments. This bears out the theories of Sir Alfred Keogh and Mr. A. W. Mayo-Robson. The œdema and condition generally is more like that produced by long bandaging, and those who suffer most have generally been standing a long time in wet trenches, a factor predisposing to constriction and œdema, thus rendering the tissues vulnerable to cold. This treatment is excellent for chilblains also.

I am, Sir, yours faithfully,

Folkestone, Jan. 28th, 1915. LENNOX WAINWRIGHT.

THE LATE MR. BRYANT IN THE OUT-PATIENT ROOM.

To the Editor of THE LANCET.

SIR,—The obituary notice of Mr. Bryant in THE LANCET of Jan. 9th did not mention the excellent method adopted by this remarkable surgeon in his out-patient clinique. As one whose privilege it was to attend Thomas Bryant's out-patient room over a lengthened period and to receive considerable benefit therefrom I would like to place on record the plan he adopted in order to educate the student's powers of observation and tactile sense by having a succession of cases representing various phases and modifications of each particular class of disease, in the hope it may commend itself to other teachers.

The patients were classified in the waiting-room, and those of each class were given thick hexagonal cards of a special colour. Thus breast cases had red cards, venereal ones blue, deformities white, &c. Each set was seen in succession and the points in diagnosis, prognosis, and treatment insisted upon. Breast cases may be taken as an example. Mr. Bryant would dilate on the importance of adhesion of the skin as an early sign of cancer, and we were shown how this was to be recognised and we were encouraged to bring out the significant puckering ourselves. A second case would show early implication of the glands, while a third would be an example of benign tumour. This thoroughness in clinical teaching quickened and sustained the student's interest in a remarkable degree, as was shown by the large and regular attendance of those who were desirous of acquiring real and lasting knowledge of surgery.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 1st, 1915. CHARLES W. CHAPMAN.

THE PHARMACOPŒIAL DOSE.

To the Editor of THE LANCET.

SIR,—I am afraid your correspondent, Mr. George Foy, in your issue of Jan. 30th, has rather missed the point of my letter on the above subject. My main object was to secure clear and definite guidance from the medical profession in cases where it was found necessary to order more than the pharmacopœial dose of any active official drug. The method by which such guidance might be given was a subordinate consideration, which I felt was entirely a matter for the discretion of practitioners themselves. The practice indicated by Mr. Foy would be quite consistent with the suggestion I ventured to make.

I am, Sir, yours faithfully,

W. J. UGLOW WOOLCOCK,
Secretary, Pharmaceutical Society of Great Britain.

Bloomsbury-square, W.C., Jan. 30th, 1915.

LEECHES AND THE WAR.

To the Editor of THE LANCET.

SIR,—With regard to Professor A. E. Shipley's letter in THE LANCET of to-day's date, may I say that owing to a conversation I had in the autumn of last year with Professor Shipley, he very kindly interested himself to obtain for us a small supply (about 200) of Limnatis granulosa. Some of them are of an enormous size, but I am informed they are perfectly good to use, and that they will absorb from 4 to 6 drachms of blood.

We shall be pleased to supply any urgent order to brother pharmacists. The price is 18s. per dozen, and the proceeds are to be given to the Belgian Doctors' and Pharmacists' Relief Fund, so that it will be doing a good turn to our friends in distress.

I am, Sir, yours faithfully,

JOHN D. MARSHALL,
Managing Director, John Bell and Croyden, Limited.

50, Wigmore-street, W., Jan. 30th, 1915.

BLUE PUS AS AN OMEN OF RECOVERY.

To the Editor of THE LANCET.

SIR,—The occurrence in a suppurating wound of blue pus, the product of the bacillus pyocyaneus, is a comparatively rare phenomenon, which can hardly be overlooked on account of the distinctive colouration of the dressings. During the past six months I have seen a dozen of these cases, occurring chiefly, but not invariably, among the wounded sent home from the front. The cases are usually compound septic fractures caused by shrapnel, and these when first seen discharge the "liquid mud" so commonly found in wounds infected in France and Belgium. After several

weeks of desperate illness a tinge of green is noticed on the previously mud-coloured dressings. In a couple of days the colour intensifies to a vivid bluish-green, which lasts a few days and then gradually fades, the total period of blue colouration averaging seven to ten days. Coincidently with, or immediately following the appearance of the blue pus, the patient's condition improves, and by the time that the blue colouration has disappeared the wounds are covered with healthy granulations and convalescence is established.

This sequence has been almost invariable, so much so, indeed, that, given a patient desperately ill from acute sepsis, in whose wounds blue pus appears, I now venture to predict that the patient is on the road to recovery, and this prediction is nearly always verified. Clinically, the above phenomena suggest that the bacillus pyocyaneus has been present from the onset of the infection, but has been held in abeyance by the other pyogenic bacteria, and that as soon as the tissues begin to get the better of these bacteria the bacillus pyocyaneus is able to multiply rapidly. In none of the cases seen was there any suspicion of infection from a previous case showing blue pus; in fact, the blue pus was nearly always limited to a single patient in a ward filled with septic cases.

The above note has been written in the hope of eliciting: (1) the opinion of bacteriologists explaining why the appearance of blue pus, in intensely septic cases, is so often the harbinger of recovery; and (2) the experience of those surgeons who are treating the wounded from the front, as to whether they have found the appearance of blue pus in septic wounds to be a favourable omen.

I am, Sir, yours faithfully,

Plymouth, Jan. 27th, 1915. C. HAMILTON WHITEFORD.

LICE AND RHEUMATISM AMONGST SOLDIERS.

To the Editor of THE LANCET.

SIR,—The discomfort and pain caused by vermin and rheumatism to our soldiers are so great that every effort should be made to destroy these pests and relieve rheumatism. In the first edition of my "Pharmacology," published in 1885, I mentioned (p. 1105) five remedies for pediculi—viz., baking clothes to destroy the ova, mercury, anise, pyrethrum, and stavesacre. In the third edition, published in 1893, I added to this list chloroform, cocculus indicus, dalmatian flowers, essential oils, laurel leaves, petroleum, and quassia. The conditions of life on active service make it almost impossible to employ any parasiticide excepting in the form of an ointment. In the *Morning Post* of Jan. 14th there is a recommendation to employ mercurial ointment smeared upon one thick woollen string worn round the neck and another round the waist. This is a very simple method and seems worthy of a trial. In hospital practice the white precipitate ointment of the strength of 1 in 10 for the body and 1 in 5 for the pubis or else stavesacre ointment are more usually employed. Cantani, in his "Farmacologia Clinica," second edition, vol. ii., p. 212, recommends pyrethrum ointment as most efficacious against both forms of lice. It is made by mixing one part of pyrethrum with two of lard. Many essential oils, such as eucalyptus, seem to have a similar beneficial action to anise or pyrethrum. Anise is particularly useful in keeping away fleas, and an easy way of employing it is to carry about on one's person a small muslin bag filled with anise seeds.

In some cases, at least, of rheumatism sulphur is an exceedingly useful anti-rheumatic. Many years ago, with the conceit born of ignorance, I considered the statement that powdered sulphur worn inside the stocking is a cure for rheumatism to be only an old wives' fable. I learnt my mistake from a case which occurred in my own practice. I was seeing at fairly regular intervals for albuminuria a thoroughly skilled scientific chemist. One day he asked me to prescribe for his wife who was suffering from rheumatic pains in her hands which prevented her from sewing. This was to her a very serious matter as she added much to their joint income by embroidering altar cloths and the like. I gave him a prescription as requested, and at our next interview I asked him how his wife was. "Oh," he said, "she is quite well." I was much pleased at this, and was taking the credit for the cure to myself, when he told me that the medicine I had given her had done her no good at all, but a friend had told her to powder the inside of her stockings with sulphur and wear them all night. In a short time this completely cured her, and her husband said the sulphur must have been absorbed through the skin of her legs, passed through her body, and been excreted by the skin of her arms because her silver bangles became black. This remedy is simple, cheap, and easily applied, and might be useful in the case of our soldiers. I hardly think it could do any harm whatever, though I have no experience of the effect of sulphur continuously applied to the skin for some weeks together, but at any rate I think it is worth a trial.—I am, Sir, yours faithfully,

LAUDER BRUNTON.

New Cavendish-street, W., Feb. 3rd, 1915.

A MISUNDERSTANDING.

To the Editor of THE LANCET.

SIR,—I see a paper in THE LANCET of Jan. 30th by Dr. E. T. Jensen, and under the heading he is described as "Physician to the Special Hospital for Officers, Kensington Palace Green." This is a mistake. Dr. Jensen was one of the signatories to a letter to the press urging the need for such a hospital. But the staff of the hospital has been chosen from those who signed and from the rest of the profession. Dr. Jensen is not to blame in any way for the mistake. He was justified in thinking that the staff included all the signatories to the letter—in fact, I had in another letter alluded to the signatories as the staff. So the mistake is mine, and I regret to have placed Dr. Jensen in a false position.—I am, Sir, yours faithfully,

Eaton-square, S.W., Feb. 1st, 1915. KNUTSFORD.

To the Editor of THE LANCET.

SIR,—Lord Knutsford has shown me his letter to you, and I quite appreciate his explanation.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 1st, 1915. E. T. JENSEN.

THE SHORTAGE OF RESIDENT MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—May I appeal through your columns for help in carrying on the work of the East London Hospital for Sick Children, Shadwell, E. It is possible there may be doctors who if they knew of the difficulties under which hospitals are now labouring would be willing to come into voluntary residence

and help them during this temporary crisis. We have exhausted all the regular methods of obtaining resident doctors, and unless we can procure such help we shall be compelled to close a large part of the establishment, which at the present time would be a great calamity for the sick children of this neighbourhood.

I am, Sir, yours faithfully,

W. M. WILCOX,
Secretary.

Shadwell, E., Feb. 1st, 1915.

THE BELGIAN STUDENT AND THE UNIVERSITY OF CAMBRIDGE.

To the Editor of THE LANCET.

SIR,—The medical profession, generous as ever, has supplied me with enough copies of "Gray's Anatomy" to satisfy the present needs of the Belgian students at Cambridge The publisher and editor have increased my sense of gratitude by presenting some copies of the new edition.

I am, Sir, yours faithfully,

A. E. SHIPLEY.

Christ's College Lodge, Cambridge, Feb. 3rd, 1915.

FUEL SUPPLIES IN WAR TIME.

To the Editor of THE LANCET.

SIR,—The following two paragraphs from the current press deserve to be noted by all interested in the use of fuel, whether in the domestic grate, the steam boiler, or the factory furnace:—

Threatened Coal Famine in the Midlands.—Birmingham and the Midlands generally are threatened with a coal famine. Not only are householders menaced but manufacturers cannot obtain regular supplies, and if the present scarcity continues some of them will have to close down. ..... A variety of causes have contributed to this, the most important of which probably is the deficiency of miners owing to enlistment.

Amsterdam, Jan. 28th.—An order to economise coal has been issued by the German railway administration at Essen. It has further been officially pointed out to housewives that coke is a much cheaper form of fuel than coal and gives a better heat.

Here is a point certainly where we may well learn from the enemy. It cannot be too widely known—not only by housewives but by factory managers and other large users of fuel—that there are in many districts full stocks of coke; that it is, at the same price per ton as coal, a much cheaper form of fuel, as a much larger percentage of its weight is readily combustible material; that in kitchen ranges "broken" coke is particularly useful; and that recent experiments have demonstrated that coke can be advantageously employed for steam raising with but slight variations in the furnace arrangements. It is therefore to the advantage both of the community and of the individual at the same time that the fullest possible use should be made of our coke supplies.

I am, Sir, yours faithfully,

A STUDENT OF FUEL ECONOMICS.

Feb. 2nd, 1915.

THE National Association for the Prevention of Infant Mortality and the Welfare of Infancy has arranged for an advanced course of lectures on infant care, to be delivered at the Royal Society of Medicine, 1, Wimpole-street, at 5.30 P.M. on Mondays in February, March, and April. The lectures are for voluntary health workers, mothers, and nurses; arrangements will be made for consultations at selected centres, and those successful at an examination to be held at the close of the course will receive a certificate. All particulars can be obtained from Miss Halford, 4, Tavistock-square, London, W.C.

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

A MEETING of the Central Executive Committee was held on Jan. 28th at the offices of the British Medical Association, when Sir Rickman Godlee and Mr. Meredith Townsend announced the despatch of the first box of instruments to Brussels. The box was delivered to the International Commission for Relief in Belgium at the Tunnel Wharf, Rotherhithe, and a Courier of the International Fund has taken charge of a letter to the Belgium Medical Committee in Brussels advising that Committee of the contents of the box and asking for reply as to whether similar consignments will be useful.

The question of providing clothes for the Belgian refugee doctors and pharmacists and their dependents was discussed at some length, and it was decided that attempts should be made to organise assistance in this direction. Certain steps have been taken; and those having wearing apparel in good condition are asked to communicate with Dr. Clément Philippe, 3, Hyde Park-street, London, W., where prepaid parcels may be sent. A voluntary group of sympathisers will assist in the distribution.

The payment of the fees for registration of the Belgian refugee doctors now to be admitted to the British roll of practice in this country was considered, but the Committee, speaking generally, did not consider that the Fund should pay these fees, because there seemed to be a discretionary power with the General Medical Council to reduce or remit them. A communication to this effect was made through the chairman of the Committee to the President of the General Medical Council.

PROVINCIAL ACTIVITY.

In the provinces great activity is being shown. A large meeting is being organised at Newcastle-on-Tyne by the local leaders of the medical profession; this meeting will be addressed by Professor Jacobs on Feb. 17th.

The University of Sheffield, the Sheffield Medico-Chirurgical Society, and the Sheffield Division of the British Medical Association having called a general meeting of the medical profession in Sheffield and the district to discuss the objects of the Fund, a committee was formed consisting of the following: Professor R. J. Pye-Smith, Professor R. Favell, Professor Sinclair White, Professor D. Burgess, Professor H. R. Dean, Dr. Sophia Witts, Dr. A. J. Hall, Mr. G. Wilkinson, Mr. Graham Simpson, Dr. A. G. Yates, Dr. H. Leader, Dr. A. W. Forrest, Dr. A. Forbes, Dr. R. Gordon, Mr. W. Longbottom, Dr. E. Hargreaves, Dr. C. Wiseman, Dr. J. Stokes, and Dr. R. W. Innes Smith. Dr. A. E. Naish, Westholme, 5, Clarkehouse-road, Sheffield, is acting as honorary secretary and treasurer to the Fund. A resolution was passed to instruct the committee to find out what offers of hospitality to refugees there might be from doctors in the district. Donations to the amount of £141 15s. were promised at the meeting.

From Birmingham a further list of subscriptions from both doctors and pharmacists has been received, and the Exeter Division of the British Medical Association (honorary secretary and treasurer, Mr. A. C. Roper, The Shrubbery, Exeter) makes a good first appearance. Both these local funds are still open.

In Manchester the movement will soon take force, as a strong local committee is being formed.

Dr. Archibald Donald, 2, St. Peter's-square, Manchester, is acting as honorary secretary, and a meeting of the local medical profession is projected immediately.

The Bradford Medico-Chirurgical Society has sent £25 to the Fund.

MEETING AT LIVERPOOL.

The meeting of the medical profession of Liverpool and district, held on the invitation of the President and Council of the Medical Institution to hear an address by Professor C. Jacobs, of Brussels, took place on Jan. 28th. It was most successful both in point of numbers and the enthusiasm displayed on behalf of the object for which it was convened. The title of Professor Jacobs's address printed on the circular sent to every medical practitioner in the neighbourhood was "Belgium and the Germans: the Belgian Medical Corps and the German Occupation."

The President of the Institution, Dr. E. W. Hope, occupied the chair. He introduced the subject in fitting terms, and admirably expressed the sentiments of those present who were eager to show their sympathy for Dr. Jacobs and his Belgian *confrères*. Dr. Hope alluded to the parlous condition in which the Belgian medical profession was, and pleaded that their condition could be materially alleviated by liberal subscriptions to the Belgian Doctors' and Pharmacists' Relief Fund through the Liverpool Medical Institution.

Professor Jacobs was received with sympathetic enthusiasm, the audience rising and acclaiming him. The first part of his address, "Belgium and the Germans," was delivered in French, slowly and deliberately, so that his hearers could readily follow him. In forceful language he repudiated the statements of the German professors, written to deny the national position of Belgium, declaring that on no occasion, and at no time, did the Belgians ever evince the slightest inclination to be taken under the protection of the Germans. He referred in scathing terms to their militarism, which had consummated the destruction of so many priceless monuments of human progress and civilisation, and in considering the present position of the Belgian medical profession and the German occupation declared that many medical men personally known to him had been shot or taken as hostages, while those who had been left alive had suffered plunder, rapine, and destruction of hearth and home. Surgical instruments, drugs, motors, horses, and even ornaments in their houses and their clothes had been stolen. The patients formerly able to pay their medical advisers were no longer in a position to do so and the source of professional income was strangled. "But I appreciate with all my heart," he said, "the noble efforts of the British medical profession and that of neutral countries to stem the rising tide of misery among their professional brethren." At the close of his address Professor Jacobs showed on the screen photographs he had taken himself of the various towns, once so *riantes*, now a heap of ruins.

A vote of thanks, proposed by Sir James Barr and seconded by Dr. Frank H. Barendt, was passed amid acclamation.

The Liverpool Fund now amounts to over £375, and it is expected that at least £500 will be raised.

THE BRITISH MEDICAL ASSOCIATION AND THE FUND.

At the meeting of the Council of the British Medical Association on Jan. 27th, the action of the treasurer and chairman of Council in authorising a contribution by the British Medical Association of 100 guineas to the Belgian Doctors' and Pharmacists' Relief Fund was very heartily approved, as was also the action of the chairman of Council in causing an invitation to be addressed to the divisions and branches of the Association to open subscription lists. Already, as will have been seen from the lists published from time to time, many divisions have opened subscription lists and made important contributions to the central fund, and the list of subscriptions published below contains record of further contributions received through the divisions.

THE WEEK'S SUBSCRIPTIONS.

Conspicuous among the donations to the Fund announced this week is one of £100 from the Victoria (Australia) Medical Benevolent Association. The subscriptions from the pharmaceutical profession are coming in steadily. A subscription from the United Hospitals' Club reminds us of the time when St. Thomas's Hospital and Guy's Hospital lived face to face in the Borough.

The subscriptions received by Dr. Des Vœux up to Tuesday evening last, in addition to those previously acknowledged, amounting to £4480, and not including money received by the Scottish or Irish Funds, are as follows:—

	£	s.	d.
Shropshire and Mid-Wales Branch, B.M.A., fourth donation (per Dr. A. G. Mackenzie, Hon. Sec.)—			
Dr. Lytle	1	1	0
Dr. George G. Whitwell	0	10	6
British Milk Products Co.	61	5	11
Mr. Pridgin Teale	5	0	0
Bradford Medico-Chirurgical Society (per Dr. H. Johnstone Campbell)	25	0	0
Colonel W. T. Martin, M.D.	1	1	0
Mr. L. A. Dunn	10	0	0
Dr. Walter K. Hunter ...	5	0	0
Mr. Walter Thompson ...	5	5	0
Dr. Wm. Mearns	1	1	0
United Hospitals Club (per Dr. J. R. Bosworth, Hon. Sec.) ...	25	0	0
Colonel Harold Hendley, M.D., I.M.S.	2	2	0
Mr. Hugh M. Rigby ...	2	2	0
Dr. I. K. Hermon	0	10	6
Mr. A. W. F. Le Dain ...	1	1	0
Mr. C. P. Crouch	2	2	0
Bury Division, B.M.A., Members and Friends (per Dr. P. F. Braithwaite, Hon. Sec.)—			
Dr. R. Crompton ...	1	1	0
Dr. F. B. G. Holmes	1	1	0
Dr. H. G. Deans ...	1	1	0
Dr. S. Sugden	1	1	0
Drs. J. W. and A. M. Johnson	1	11	6
Dr. J. M. Johnson ...	0	10	0
Dr. H. Lawrie ...	1	1	0
Dr. G. A. Jelly ...	1	1	0
Dr. H. E. Strathy ...	1	1	0
Dr. A. Lucas	1	1	0
Dr. P. F. Braithwaite	1	1	0
Girls and Staff of Kensington House, Birkenhead (per the Principal, Miss Braithwaite) ...	5	0	0
Dr. Eardley Holland ...	2	2	0
Dr. E. Hyla Greves ...	1	1	0
Dr. Lambert Lack	4	4	0
Dr. P. C. W. Laws	1	1	0
Mr. Harold Chapple ...	2	2	0
Mr. J. A. Thornton ...	1	1	0
Exeter Division, B.M.A. (per Mr. A. C. Roper)—			
Mr. A. C. Roper ...	5	0	0
Mr. R. A. Worthington	2	2	0
Mr. B. Dyball	3	3	0
Fleet-Surgeon H. W. D. Walsh	2	2	0
Mr. R. J. Andrews ...	0	10	0
Dr. R. D. Stokes ...	0	10	0
Dr. Massy Alleyne ...	0	10	6
Dr. J. W. Hodgson	1	1	0
Dr. E. O. Kingdon ...	1	1	0
Dr. R. Martyn	1	0	0
Dr. J. A. Pereira ...	1	1	0
Dr. J. Mortimer ...	1	1	0
Mr. R. V. Solly ...	1	1	0
Dr. H. Davy	2	2	0
Dr. H. Andrew ...	2	2	0
Dr. J. D. Harris ...	1	1	0
Dr. A. Ash	1	1	0
Dr. Mabel E. Gates	1	1	0
Dr. J. W. Miller ...	0	10	0
Dr. M. Cutcliffe ...	1	1	0
Dr. C. H. Berry ...	1	1	0
Dr. A. W. Hunt ...	0	10	0
Dr. L. H. Toswill ...	1	1	0
Dr. J. R. R. Pollock	1	1	0
Dr. E. Archer	3	3	0
Dr. W. Ashford ...	1	1	0
Dr. C. E. Liesching ...	1	1	0
Dr. R. S. Thomas ...	1	1	0
Dr. G. H. Hanna ...	1	0	0
Dr. J. R. Thomas ...	1	1	0
Dr. W. F. Thompson	2	2	0
Deputy-Inspector General S. W. Vasey, R.N.	1	1	0
Dr. C. Beesly	1	0	0
Dr. G. F. Welsford ...	1	1	0
Dr. C. J. Vlieland ...	1	1	0
Dr. H. E. Goulden ...	1	1	0
Dr. G. W. Curtis ...	1	1	0
Dr. G. Adkins	1	1	0
Captain E. J. G. Brash, R.A.M.C. ...	1	1	0
Dr. H. W. Furnivall	1	0	0
Mr. G. A. Wright ...	1	1	0
Dr. R. Walker	1	0	0
Dr. P. M. Deas ...	5	5	0
Dr. J. F. Wolfe ...	2	2	0
Dr. W. Scott Campbell	1	1	0
Dr. J. H. Iles	1	1	0
Dr. E. J. Pollock ...	2	2	0
Dr. J. A. Bell	1	1	0
Dr. C. G. E. Bennett	1	1	0
Dr. R. Eager	2	2	0
Dr. F. Ellis	1	1	0
Dr. C. H. Maskew ...	1	1	0
Dr. F. A. Roper ...	1	1	0
Dr. J. A. Goard ...	1	1	0
Dr. D. K. Muir ...	0	10	6
Dr. Bertha Mules ...	1	1	0
Dr. C. H. Wise ...	0	10	6
Dr. R. L. Patterson	0	10	0
Dr. C. Fenwick ...	1	1	0
Lieutenant-Colonel Weston, R.A.M.C.	1	1	0
Dr. Charles Gordon Gibson	1	1	0
Dr. A. N. Davis ...	1	1	0
Dr. W. Gordon ...	5	5	0
Dr. J. H. E. Jerrard	2	2	0
Mr. J. M. Ackland	1	1	0
Dr. J. H. Whaite ...	1	1	0

	£	s.	d.
Dr. J. S. S. Perkins	1	1	0
Mr. Russell Combe	1	1	0
Dr. R. Hedden ...	1	1	0
Northants Division, B.M.A. (per Dr. Hichens, Hon. Sec.)—			
Dr. H. Staines Baker	1	1	0
Dr. F. S. D. Hogg... ...	1	1	0
Dr. William Skelly... ...	1	1	0
Mr. Percy Flemming ...	3	3	0
Mr. Waren Tay	1	1	0
Mr. R. C. Bailey	5	5	0
Dr. F. S. Macintosh ...	1	1	0
Dr. T. T. Whippam ...	3	3	0
Mr. C. A. Ballance ...	3	3	0
Mr. George Morgan ...	1	1	0
Birmingham Local Committee (per Dr. R. Saundby, Hon. Sec.)—			
Dr. and Mrs. John Frew, proceeds of Whist Party... ...	8	0	0
Dr. Robert B. Coleman...	2	2	0
Dr. J. G. Emanuel	2	2	0
Dr. W. A. Loxton ...	2	2	0
Dr. W. J. McCardie	2	2	0
Dr. W. Fraser Annand	1	1	0
Dr. G. F. Blake ...	1	1	0
Dr. Fred. H. Haynes	1	1	0
Dr. B. Seymour Jones	1	1	0
Dr. Ina S. McNeill	1	1	0
Dr. G. Hyde Melson	1	1	0
Dr. R. Arthur Newton	1	1	0
Dr. B. Lewis Paton	1	1	0
Dr. H. C. Quirke ...	1	1	0
Dr. N. O. Roberts ...	1	1	0
Dr. G. Jackson Smith	1	1	0
Pharmaceutical Society, Members of Board of Examiners for England and Wales—			
Mr. Charles T. Allen	2	2	0
Professor A. W. Crossley	2	2	0
Mr. F. W. Gamble...	2	2	0
Mr. W. F. Gulliver	2	2	0
Mr. E. F. Harrison...	2	2	0
Mr. H. J. Kluge ...	2	2	0
Mr. P. H. Marsden...	2	2	0
Mr. A. R. Melhuish	2	2	0
Professor R. W. Phillips	2	2	0
Mr. W. F. J. Shepheard	2	2	0
Mr. T. Tickle	2	2	0
Mr. Edmund White, President	2	2	0
Mr. E. T. Nethercoat, Vice-President ...	2	2	0
Messrs. Woolley, Sons, and Co., Limited... ...	20	0	0
Eastbourne Pharmacists' Association (per Mr. D. Marchant)	2	2	0
Mr. Edmund White, President Pharmaceutical Society	5	0	0
Mr. D. Gilmour	1	1	0
Messrs. C. J. Hewlett and Son, Limited ...	2	2	0
Mr. W. L. Howie	1	1	0
Mr. M. T. Evans	0	10	0
Mr. N. S. Smith	0	5	0
Mr. C. Fielding	0	10	0
Mr. M. T. Foster	0	10	6
Mr. J. R. Ball (second contribution)	0	2	0
Dr. D. Charteris	0	10	0
Peterborough Pharmacists' Committee, collected by, second list (per Mr. J. W. Bodger)—			
Messrs. Best and Goggs	0	10	6
Mr. W. H. Turner...	0	10	6
Mr. C. H. M. Baxter	0	5	0
Mr. J. Palmer	0	5	0
Rochdale Pharmacists' Association, collected by (per Mr. J. Kershaw)—			
Mr. W. Bamford ...	2	0	0
Mr. E. Thomas ...	1	1	0
Mr. G. S. Dean ...	1	1	0
Mr. J. Kershaw ...	1	1	0
Mr. L. Etherington	0	10	6
Mr. R. Whitaker ...	0	10	6
Mr. H. Holt	0	10	6
Messrs. Mercers, Ltd.	0	10	6
Mr. S. Hall	0	10	0
Mr. J. R. Smalley ...	0	5	0
Mr. A. F. Corfe	5	0	0
Mr. J. R. Cave	1	1	0
Mr. H. Barrett	0	10	6
Birmingham Pharmaceutical Association, collected by, third list (per Mr. F. Smith)—			
Mr. F. H. Prosser ...	2	2	0
Mr. C. Thompson ...	2	2	0
Mr. J. H. Cullwick .	1	1	0
Mr. A. Yeates	1	1	0
Mr. A. F. Goode ...	1	0	0
Mr. W. E. Boyle ...	0	10	6
Mr. T. H. Butler ...	0	10	6
Mr. W. H. Richardson	0	10	6
Mr. T. Batty	0	10	0
Mr. O. T. Edwards...	0	5	0
Miss M. B. White ...	0	5	0
Mr. D. R. Whitley...	0	5	0
Mr. Sidney S. Brown ...	1	1	0
Dr. J. W. Browne	1	1	0
Dr. Langdon Brown ...	2	2	0
Dr. C. Hubert Bond ...	2	0	0
Bolton Division, B.M.A. (per Dr. O'Neill, Hon. Sec.)—			
Dr. J. Young	2	2	0
Dr. R. H. Robbins	1	1	0
Canterbury and Faversham Division, B.M.A. (per Mr. Neil Robson, Hon. Sec.)—			
Dr. J. S. Clark ...	1	1	0
Sir William H. Bennett, K.C.V.O.	5	0	0
Victoria (Australia) Medical Benevolent Association (per Dr. Edward L. Gault, Hon. Sec.)	100	0	0

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr. H. A. Des Vœux, at 14, Buckingham-gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund and crossed Lloyds Bank, Limited. These will be acknowledged by post direct, and a list will appear in THE LANCET weekly.

THE APPEAL FOR SURGICAL INSTRUMENTS.

The Master of the Society of Apothecaries acknowledges with thanks the receipt of surgical instruments kindly contributed by the following donors since the publication of the last list:—

Dr. Robert Sinclair, Dundee; Dr. R. H. Rowell, Newcastle-on-Tyne; Dr. H. Beckett-Overy, Lowndes-street, S.W.; Dr. H. M. Morgan, Lichfield; and Dr. Ethel Lamport, per Miss H. F. Gethen, Long Sutton, Winchfield.

HUNTERIAN SOCIETY.—The annual oration will be delivered by Dr. H. Russell Andrews on "William Hunter's Work on Midwifery" at 9 P.M. on Wednesday next, Feb. 10th, at the Barbers' Hall, Monkwell-street, E.C.

Obituary.

BASIL GORDON MORISON, M.D. EDIN.

Dr. Basil Gordon Morison, whose death occurred on Jan. 28th at the age of 60, was the younger son of Surgeon A. C. Morison, of the Bengal Native Infantry in the Honourable East India Company's Service. His grandfather, Sir Alexander Morison, of Bankhead, Midlothian, was also a physician of London and Edinburgh. At the University of the latter city Dr. Morison received his medical education, graduating in 1878 with first-class honours and being *proxime accessit* to both the Ettles and Beaney prizes. After graduation he became a demonstrator of anatomy to Professor (now Principal) Sir William Turner. While in this position he did his work acceptably and wrote a paper on the Arrangement of the Azygos and Superior Intercostal Veins in the Thorax,[1] in which he described a new and almost constant venous junction. He then joined his elder brother in practice in the north of London, and it was, perhaps, unfortunate that he did so, for the quality of his work, his finished literary style, and his excellent draughtsmanship fitted him for scientific work and record. But the future of the young scientist is always uncertain and—one must live. He therefore settled in London in 1879.

Thirty-six years ago the centres of medical activity in the metropolis were less accessible from the suburbs than they are now. Islington at that time had but one medical society—the Islington Medical Society—which contained some members of the highest type of private practitioner. The meetings were, however, held in the private houses of members and were thus unsuitable for the exhibition of morbid specimens. Basil Morison, imbued with scientific ardour and cherishing a high ideal of his profession as a liberal calling, together with some others founded the Æsculapian Society in 1880, which practised the whole scientific method, observed all ethical proprieties, and Morison himself hoped it might also lead to the abolition of the practice of pharmacy by the family physician. But for his anxious care of the new society it would have foundered soon after it had been launched; thanks to it, it floated into deep water and still exists with a considerable membership, meeting at the Metropolitan Hospital and doing useful work in North London. Many of its members gathered in Abney Park Cemetery on Feb. 1st to pay their last respects to their friend and laid a corporate wreath upon his grave.

All Morison's scientific work, done amid the distractions of a practice carried on with punctilious conscientiousness and involving overwork, was of a high order, as is evidenced by his paper on Infantile Diarrhœa read at the annual meeting of the British Medical Association in Liverpool in 1883; by that on Symmetrical Cysts in the Cerebrum, communicated by him and the late Dr. Charlewood Turner to the Pathological Society of London, which was beautifully illustrated by Morison himself; and by numerous communications in the transactions of the Æsculapian Society, of which he was for a long time secretary, of which he had been President, and of which he was, at the time of his death, treasurer. His ideals of professional life caused him to offer a resolute opposition to the National Insurance Act. "For the vacillation of those who

[1] Journal of Anatomy and Physiology, vol. xiii., p. 346.

should have been the guardians of the profession in this matter," writes one who knew Basil Morison well, "he entertained some scorn. He was the chairman of his division in opposing the panel system, and it is not too much to say that his strenuous exertions in this movement, with an underlying failure of health which he refused to acknowledge, materially hastened the crisis which resulted in his regrettable death."

While he was a man of great determination of character and with a singleness of purpose in the pursuit of right, Basil Morison was among his friends gentleness personified, and he probably had not an enemy. He was in the habit of remarking, especially during his last illness, when he at times suspected that his course was run, and expressed a little disappointment that it should be so, that, after all, it was what a man *did* that mattered, not what reward or recognition he obtained for his work. Though his material reward was not great, as so often happens in such cases, the inspiration of his example and his memory will be a force for good among his personal friends. Three months ago his heart began to fail acutely with an angina sine dolore, and he was removed to the residence of his brother, Dr. Alexander Morison, where he was under the joint care of his friends, Dr. Leonard Guthrie and Dr. George Johnston, and of his brother. Perfect rest eventuated in a promising improvement, and he contemplated spending some time with a friend in the country before trying to resume work. But accidental exposure on a boisterous day, when he was, brave to the last, rather imprudently but characteristically testing his degree of recovered power, always with a view to working again, caused a recurrence of cardiac failure, and after a week's struggle the end came. "He was," writes a personal friend, "a man of deep but unobtrusive religious feeling, attached more importance to the conclusions of St. Paul than to those of Renan and Strauss, and died as he had lived in the light of the life to come. It is well with him."

In 1887 he married Caroline, the eldest daughter of the late Colonel Herne, of the 103rd Regiment (Royal Bombay Fusiliers). She survives to mourn him with many attached friends.

The War.

MEDICAL PRISONERS OF WAR.

A FEW weeks ago we recorded the liberation and return to England of three officers of the Royal Army Medical Corps and two British Red Cross surgeons who had been taken prisoners by the Germans whilst attending wounded British and Belgian soldiers, and kept in captivity. Vivid accounts of the disgraceful treatment which several of these medical men received at the hands of the Germans appeared in the press at the time, but why the enemy should have chosen to release these particular medical men when there were so many others in exactly the same case has not yet been explained.

The Geneva Convention of July 6th, 1906, which replaced the earlier Convention of 1864, was signed on behalf of the German Government, and subsequently ratified by it. Nevertheless, the German authorities have obstinately refused to release the British medical personnel captured by them. Sir John Byers, in an interesting letter to the *Times* recently, gave cogent reasons why an interchange of medical prisoners of war ought to be arranged without delay. But it must not be forgotten that no reasons are really needed for the prompt return to their own side of medical prisoners, since by international law medical men engaged in professional duties are immune from capture. Article 9 of the Geneva Convention of 1906 runs as follows:—

> The personnel engaged exclusively in the collection, transport, and treatment of the wounded and the sick, as well as in the administration of medical units and establishments, and the chaplains attached to armies, shall be respected and protected in all circumstances. If they fall into the hands of the enemy they shall not be treated as prisoners of war.

Article 10 covers the case of British Red Cross surgeons, and begins as follows:—

> The personnel of Voluntary Aid Societies duly recognised and authorised by their Government who may be employed in the medical units and establishments of armies is placed on the same footing as the personnel referred to in the preceding article, provided always that the first-mentioned personnel shall be subject to military law and regulations.

Article 12 provides for the return to their own side as soon as possible of recognised medical officers who have fallen into the hands of the enemy:—

> The persons designated ..... after they have fallen into the hands of the enemy shall continue to carry on their duties under his direction, and when their assistance is no longer indispensable they shall be sent back to their army or to their country at such time and by such route as may be compatible with military exigencies. They shall then take with them such effects, instruments, arms, and horses as are their private property.

Lastly, Article 13 should be quoted, for its terms seem, in many cases if not in all, to have been violated by the German authorities:—

> The enemy shall secure to the persons mentioned in Article 9 while in his hands the same allowances and the same pay as are granted to the persons holding the same rank in his own army.

The extracts which we have given make it quite clear that the enemy to suit his own purposes has deliberately ignored the Convention to which he was a party. The question of exchanging military and Red Cross officers falling into the enemy's hands does not arise. The only ground for this repudiation of its duty which Germany could conceivably bring forward is Article 24:—

> The provisions of the present Convention are only binding upon the contracting powers in the case of war between two or more of them. These provisions shall cease to be binding from the moment that one of the belligerent powers is not a party to the Convention.

With so many nations engaged in this world war, it may, for aught we know, be possible by some quibble to contend that some one or other of the States now at war omitted to sign or to ratify the 1906 Geneva Convention in the precise form laid down, and that Germany is thereby absolved from carrying out any duties which happen to be distasteful or inconvenient.

THE CASUALTY LIST.

For some weeks past the casualty lists have been lighter, and we have had to record no names of medical officers in the navy or army as killed, wounded, missing, or captured. H.M.S. *Viknor*, however, contained Surgeon Vernon Lickfold Matthews, R.N., among her officers, and it is assumed by the Admiralty that he lost his life with her. Lieutenant J. R. Waddy, R.A.M.C., was reported wounded on Jan. 31st.

TORPEDOING A HOSPITAL SHIP.

No doubt the German Admiralty will find some hair which can be split to excuse the murderous attack by a submarine upon the British hospital ship *Asturias* 15 miles off the Havre lightship on Tuesday last. But the fact remains that in defiance of humanity and the plain letter of international law a German torpedo was fired at a Red Cross vessel at 5 o'clock on a February afternoon, when it was too light for the attack to be made by error. Fortunately the attempt failed, but it will not be forgotten.

THE WAR AND THE SHORTAGE OF DOCTORS.—At the recent meeting of the Executive Committee of the General Medical Council, Sir Donald MacAlister gave some figures comparing the number of medical students now in attendance with the number at the beginning of the October session, 1913. The figures showed a reduction in the first year students of 49, second year 220, third year 256, fourth year 202, fifth year and higher 312. From these figures it is clear that for the next few years from 200 to 300 fewer medical men will qualify. This information has been communicated to the War Office, with a view to releasing for the completion of their curriculum the senior medical students enrolled in the Royal Army Medical Corps or serving with the Red Cross.

WOUNDED ALLIES RELIEF COMMITTEE.—This committee was established on the outbreak of war to coöperate with the Admiralty, the War Office, and the Red Cross Societies for the relief of wounded allies. Working in close coöperation with the British and Belgian Governments, it has arranged for 1800 wounded Belgians in hospitals in various parts of England and Scotland, and there are now about 60,000 of these men registered at the committee's bureau, of whom about 20,000 are in this country. The register is officially recognised by the Registrar Général as the source of information concerning Belgian soldiers. The committee has arranged, and is now arranging, accommodation for convalescents on leaving hospital. It has become clear that the Wounded Allies Relief Committee is faced with a great undertaking and a great responsibility, which it is anxious to discharge.

The hospitals organised by Dr. Haden Guest at the Hotel Majestic in Paris, at Limoges, and at Nevers are doing valuable work in cordial relationship with the French authorities. The funds provided for general Red Cross purposes are only to a very small extent available for other than British wounded, and Belgian resources are, by the unhappy situation of that country, exhausted. In order to meet these great needs, which are bound to increase, the Wounded Allies Relief Committee appeals for a sum of £100,000, to be spent in the immediate work of the relief of the sick and wounded of our gallant allies. Remittances should be sent to the honorary treasurer, 217, Strand, W.C.

THE BELGIAN SOLDIERS' FUND.—This fund is appealing for regular weekly support in order to provide the Belgian soldiers at the front with a constant supply of food, comforts and warm clothing. The need of these men is very great; for their own people, most of whom are either in the hands of the Germans or refugees in foreign lands, are unable to send them the parcels from home that have meant much to the British Expeditionary Force. Food is soon used up, and clothing soon becomes unwearable from the conditions in the trenches. Therefore the Belgian Soldiers' Fund is appealing for weekly gifts of groceries, such as 1 lb. packets of coffee, biscuits, cocoa, lump sugar, rice, chocolate, macaroni, split peas, or one tin of meat, milk, jam, meat extract, &c., or one warm garment a week. The fund is also sending comforts of food and clothing to the Belgian military hospitals. Contributions in money or in kind and donations towards field kitchen comforts for providing hot meals to the men in the trenches will be gratefully received by the Secretary, the Belgian Soldiers' Fund, 19, James-street, Oxford-street, London, W.

DUBLIN CASTLE HOSPITAL.—This hospital, which is now ready for the reception of wounded soldiers, was thrown open during one afternoon last week for inspection by the public. The original intention was to provide accommodation for 500 soldiers, but at the suggestion of the War Office the actual number of beds has been reduced to 250. There is little doubt that a much larger number can be put up should occasion require. The several rooms of the State apartments have been fitted up as wards for soldiers, notably the large rooms known as the Throne Room, the Gallery, and the Supper Room. They are lofty, bright, and cheerful rooms, well heated, though they have the defect of a northern aspect. There are no beds in St. Patrick's Hall, which is to be fitted as a recreation room. A number of smaller rooms, including those occupied by the King and Queen on their last visit to Ireland, have been specially fitted for officers. These rooms contain three or four beds each, and have a pleasant southern aspect. The theatre is a large circular room, which is fairly suitable for its purpose. Those in charge of the undertaking have made their arrangements with great expedition, and the hospital should be thoroughly efficient.

VACANCIES FOR MEDICAL OFFICERS.—Captain A. Mowat, commanding the Highland Mounted Brigade Field Ambulance, Royal Army Medical Corps, writes from the Drill Hall, Rose-street, Inverness, as follows: "Medical officers are urgently required for service with the above unit. There is also a vacancy for a medical officer for the 4th (Reserve) Cameron Highlanders. I shall be glad to give full information regarding pay and duties to anyone who applies to me at the above address."

IN *Le Matin* of Jan. 17th appeared the following notice in reference to Mr. Bruce Burnside, who is now acting as surgeon in one of the French Red Cross hospitals: "The President of the French Republic has granted a silver medal of the second class for the saving of life to Dr. Bruce Burnside, a British subject, who distinguished himself by his courage and his devotion in saving, under particularly perilous circumstances, a child who had fallen into the river Gner, at Lannion, on the 29th of October, 1914."

JAPANESE RED CROSS SOCIETY.—On Jan. 29th Queen Alexandra received at Marlborough House the members of this society who have arrived in England for service and are now at Netley. The unit, which was presented to Her Majesty by the Earl of Onslow, included Dr. Jiro Suzuki, late Surgeon-General of the Imperial Japanese Navy, and Dr. Tsuneyshi Ashima. The personnel consists of 2 surgeons, 2 chief nurses, 20 nurses, a secretary, and an interpreter. They arrived at Liverpool on Jan. 22nd, when they were welcomed by Lord Onslow and Surgeon-General Sir B. Franklin on behalf of the British Red Cross Society, and by Mr. H. Bonar on behalf of the War Office. On Jan. 27th Lord Emmott, on behalf of the Government, entertained the four leading members of the party to dinner at the Carlton Hotel, Mr. F. Dyke Acland, Under Secretary for Foreign Affairs, presiding. Similar Japanese Red Cross ambulances have been despatched to France and Russia.

WAR GIFT FROM THE IMPERIAL COLLEGE.—On Feb. 2nd Surgeon-General Sir Alfred Keogh, K.C.B., Director-General of the Army Medical Department, was presented with a portable X ray apparatus of the War Office pattern by the staff and students of the Imperial College of Science and Technology. At the outbreak of war Sir Alfred Keogh, who is Rector of the College, was given leave by the governing body to act as Red Cross Commissioner in France, and he was subsequently called back to his former post at the War Office by Lord Kitchener. The X ray apparatus will be handed over to the No. 15 General Hospital for use at the front. Mr. A. H. D. Acland, chairman of the governors of the College, presided over a large gathering, and the presentation was made by Professor J. B. Farmer on behalf of the staff and Mr. R. L. Carr on behalf of the students.

Lieutenant-Colonel M. J. Whitty, R.A.M.C., who has held the post of senior medical officer of the Liverpool recruiting area for the past eight years, has been appointed medical officer of recruits in the Western Command.

IT is announced that Sir Thomas Lipton's yacht *Erin*, with a British Red Cross party for the Balkans on board, have arrived safely at Brindisi.

Medical News.

UNIVERSITY OF CAMBRIDGE.—It is proposed by the council of the Senate to offer the following grace for approval by the Senate: "That on the recommendation of the State Medicine Syndicate the examination for the diploma in Psychological Medicine be not held in the present academical year."—The following medical degrees have been conferred:—

M.B. and B.C.—C. L. Gimblett, Caius.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A pathological meeting will be held to-day, Friday, Feb. 5th, in the society's rooms, West London Hospital. Specimens will be shown at 8 P.M. and the chair will be taken at 9 o'clock.

ON Thursday evening, Jan. 28th, Mr. W. G. Martin, on his retirement from the post of head printer of THE LANCET after nearly 40 years of service, was entertained to dinner by past and present members of the staff, when a presentation was made to him by the Editor on behalf of some who have worked with him.

THE Council of the University of Sheffield have appointed Mr. Arthur J. Hall, M.A., M.D. Cantab., F.R.C.P. Lond., to the post of Lecturer in Medicine.

THE PROFESSIONAL CLASSES WAR RELIEF COUNCIL.—The Lord Mayor of London has issued invitations to a public meeting to be held at the Egyptian Hall of the Mansion House on Tuesday, Feb. 16th, at 4 P.M., to consider how distress among the professional classes, attributable to the war, can best be prevented or relieved. The Archbishop of Canterbury and Sir Edward Clarke will address the meeting, and further information can be received from the honorary secretaries of the Council, 13, Prince's-gate, London, S.W.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CROCKER, J. H., Medical Officer of Health of Richmond, Surrey, Captain, R.A.M.C. (Ter. S.S.), has been appointed Honorary Physician and Registrar to the Red Cross Hospital, Richmond, overflow to the 2nd London (City of London) General Hospital, Chelsea.

GUTHRIE, DOUGLAS, M.D., F.R.C.S. Edin., has been appointed Temporary Surgeon to the Edinburgh Ear and Throat Infirmary.

LEASK, HENRY L. G., M.D. Glasg., F.R.F.P. & S. Glasg., has been appointed Surgeon to the Glasgow Eye Infirmary.

MCALLISTER, A. C., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Obstetric Registrar to King's College Hospital, S.E.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYLESBURY, ROYAL BUCKINGHAMSHIRE HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board, washing, and lodging.

BENENDEN, KENT, NATIONAL SANATORIUM.—Medical Superintendent. Salary £350 per annum, with house.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board and laundry.

BIRMINGHAM CITY MENTAL HOSPITAL, Rubery-hill.—Female Junior Assistant Medical Officer. Salary £260 per annum, with apartments, board, laundry, &c.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—House Surgeons, Senior and Junior. Salaries £150 and £130 per annum, with board, residence, and laundry.

BOURNEMOUTH, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer. Salary £300 per annum, with board, residence, and laundry.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRADFORD CITY.—Two positions on Staff of Medical Officer of Health in connexion with scheme of Child Welfare. Salary £350 per annum.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with apartments, board, attendance, laundry, &c.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried. Salary at rate of £125 per annum, with board, lodging, and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with apartments, board, and laundry. Also Junior House Surgeon and Assistant House Surgeon with charge of beds. Salaries £80 per annum, with apartments, board, and laundry.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BRISTOL GENERAL HOSPITAL.—Senior House Surgeon. Salary at rate of £200 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House Surgeon. Salary at rate of £120 per annum, with board, apartments, and laundry.

BURNLEY, VICTORIA HOSPITAL.—House Surgeon. Salary £135 per annum, with residence, board, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £150 per annum, with board, residence, and washing.

CANCER HOSPITAL, Fulham-road, S.W.—House Surgeon for six months. Salary £100 per annum.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Third Junior Assistant Medical Officer. Salary £250 per annum, with quarters, board, washing, &c.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, lodging, and washing.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing. Also Resident Medical Officer. Salary £200 per annum, with board, &c.

COLCHESTER, ROYAL EASTERN COUNTIES' INSTITUTION FOR IMBECILES AND THE FEEBLE-MINDED.—Female Medical Officer. Salary at rate of £200 per annum, with board, apartments, attendance, and washing.

COVENTRY, COVENTRY AND WARWICKSHIRE HOSPITAL.—House Physician. Salary £110 per annum, with rooms, board, washing, and attendance.

DERBYSHIRE COUNTY COUNCIL.—Tuberculosis Dispensary Officers. Salary £400 per annum.

DOMESTIC SERVANTS' INSURANCE SOCIETY.—Medical Referee and Adviser one hour per day. Salary 150 guineas per annum.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Also Assistant House Surgeon. Salary £150 and £120 per annum respectively, with board, residence, attendance, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Female Resident House Surgeon.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell.—Resident Medical Officer, House Physician, and House Surgeon.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board, lodging, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Senior House Surgeon for 12 months. Also House Physician and Assistant House Surgeon for six months. Salary at rate of £250 per annum for senior post and £150 for junior posts, with board, apartments, and washing.

GLOUCESTER COUNTY ASYLUM, Barnwood, near Gloucester.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, lodging, laundry, and attendance.

HACKNEY UNION INFIRMARY, High-street, Homerton, N.E.—Junior Assistant Medical Officer. Salary £250 per annum, with rations, apartments, and attendance.

HALIFAX ROYAL INFIRMARY.—Second and Third House Surgeons, unmarried. Salary £120 and £100 per annum respectively, with residence, board, and washing.

HAMMERSMITH INFIRMARY, Ducane-road, Wormwood Scrubs, W.—Second Assistant Medical Officer. Salary £130 per annum, with board, lodging, washing, and attendance.

HOSPITAL FOR DISEASES OF THE SKIN, Stamford-street, Blackfriars, S.E.—Clinical Assistant.

HUDDERSFIELD, COUNTY BOROUGH.—Medical Inspector of School Children. Salary £300 per annum.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female House Surgeon and Female Assistant House Surgeon. Salary £60 and £50 per annum respectively, with board and laundry. Or Male Resident House Surgeon. Salary £60 per annum, with board and laundry.

KENSINGTON TUBERCULOSIS DISPENSARY, 119, Ladbroke-grove, W.—Temporary Medical Officer. Salary at rate of £500 per annum.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum.

LEEDS UNIVERSITY.—Demonstrator of Bacteriology. Salary £250 per annum.

LEICESTER EDUCATION COMMITTEE.—Temporary Assistant Medical Officer. Salary £300 per annum.

LIVERPOOL, COUNTY ASYLUM, Rainhill.—Locum Tenens Assistant Medical Officer.

LIVERPOOL INFIRMARY FOR CHILDREN.—Two Resident House Physicians for six months. Salary £30 each, with board and lodging.

LONDON HOMŒOPATHIC HOSPITAL, Great Ormond-street and Queen-square, Bloomsbury, W.C.—Surgeon for Diseases of the Eye.

LONDON LOCK HOSPITAL, Dean-street, Soho, W.—House Surgeon for six months. Salary at rate of £100 per annum. Also Honorary Anæsthetist once a week.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Visiting Surgeon. Salary £100 per annum.

MANCHESTER CORPORATION.—Two Assistant Tuberculosis Medical Officers. Salary £350 each per annum.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

MANCHESTER EDUCATION COMMITTEE.—Two Assistant School Medical Officers. Salary £300 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER, MONSALL FEVER HOSPITAL.—Second and Third Medical Assistants. Salary £175 and £150 per annum respectively, with board, lodgings, and washing.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Resident Surgical Officer at High-street Hospital. Salary £90 per annum, with board and residence. Also House Surgeon for three or six months. Salary at rate of £70 per annum, with board and residence. Also House Surgeon at Whitworth-street West Hospital for three or six months. Salary at rate of £70 per annum, with board and residence.

MIDDLESBROUGH COUNTY BOROUGH.—Temporary Chief Tuberculosis Medical Officer. Salary £500 per annum.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary £85 per annum, with board, residence, and laundry.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.
NORTHAMPTON COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £250 per annum, with board, &c.
NOTTINGHAM GENERAL HOSPITAL.—Senior House Physician. Salary £120 per annum, with board, residence, and laundry. Also Assistant House Physician for six months. Salary at rate of £100 per annum, with board, residence, and laundry.
OLDHAM ROYAL INFIRMARY.—Second House Surgeon. Salary at rate of £120 per annum, with board, residence, and laundry.
PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.
PAISLEY BURGH INFECTIOUS DISEASES HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with board, washing, and attendance.
PLYMOUTH INCORPORATION OF GUARDIANS WORKHOUSE AND INFIRMARY.—Resident Assistant Medical Officer. Salary £250 per annum, with apartments, rations, and washing.
PORTSMOUTH ROYAL HOSPITAL.—House Surgeon for six months. Salary £150 per annum, with board, &c.
PRESTON ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary £120 per annum, with board, residence, and laundry.
QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Assistant Surgeon.
ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Second Resident Medical Officer. Salary at rate of £100 per annum, with board and washing. Also Temporary Honorary Assistant Physician to Out-patients.
ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £90 per annum, with board, residence, and laundry.
SALFORD COUNTY BOROUGH.—Assistant Tuberculosis Officer. Salary £350 per annum.
SALFORD ROYAL HOSPITAL.—Casualty House Surgeon. Salary at rate of £100 per annum, with board and residence.
SALISBURY GENERAL INFIRMARY.—House Surgeon and Assistant House Surgeon, unmarried. Salary £100 and £75 per annum respectively, with apartments, board, lodging, and washing.
SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salary £100 and £80 per annum respectively, with board, residence, &c.
SHEFFIELD CHILDREN'S HOSPITAL.—House Surgeon. Salary £150 per annum, with board and residence.
SHEFFIELD ROYAL HOSPITAL.—Female Assistant House Surgeon and Assistant House Physician. Salary £85 and £80 per annum respectively, with board, residence, and washing.
SIXTH (RESERVE) BATTALION, THE BLACK WATCH (ROYAL HIGHLANDERS).—Medical Officer.
SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £120 per annum, with rooms, board, and washing.
SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.
STOKE-ON-TRENT EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.
STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House Physician and House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and washing.
STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.
SWANSEA UNION INSTITUTION.—Resident Assistant Medical Officer. Salary £295 per annum.
TAUNTON AND SOMERSET HOSPITAL, Taunton.—Senior House Surgeon. Salary £120 per annum, with board, lodging, and laundry.
TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £150 per annum, with rooms, board, and washing.
TUNBRIDGE WELLS GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, &c.
WAKEFIELD, CLAYTON HOSPITAL.—Senior House Surgeon. Salary £160 per annum, with board, lodging, and laundry.
WALSALL AND DISTRICT HOSPITAL.—Assistant House Surgeon and Anæsthetist. Salary £110 per annum, board, residence, and laundry.
WALTHAMSTOW URBAN DISTRICT COUNCIL HOSPITAL FOR INFECTIOUS DISEASE, Chingford.—Resident Medical Officer. Salary £250 per annum, with rooms and board.
WEST BROMWICH AND DISTRICT HOSPITAL.—House Surgeon and Assistant House Surgeon, unmarried. Salary £150 and £120 per annum respectively, with residence, board, and laundry.
WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Junior House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing.
WHITECHAPEL UNION INFIRMARY, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £200 per annum, with rations, apartments, and washing.
WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Female Junior House Surgeon. Salary £130 per annum, with board, apartments, and washing.
WINDSOR, FIFTH RESERVE BATTALION THE QUEEN'S REGIMENT.—Medical Officer.

Births, Marriages, and Deaths.

BIRTHS.

CORBETT.—On Jan. 27th, at Blackwell, near Bristol, the wife of Captain D. M. Corbett, R.A.M.C., of a daughter.
HAY.—On Jan. 28th, at 20, St. James's-place, S.W., the wife of Kenneth R. Hay, M.B., of a son.

DEATHS.

DOUGHTY.—On Jan. 28th, at Woodchurch, Kent, William Cape Doughty, L.R.C.P. & S., after a short illness, aged 31 years.
MORISON.—On Jan. 28th, at the residence of his brother, 14, Upper Berkeley-street, W., Basil Gordon Morison, M.D., aged 60 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE ARMY MEDICAL SERVICE: LOOKING BACKWARD.

A CORRESPONDENT writes: The first definite information of medical men in the battlefield occurs in the reign of Henry V., when Nicholas Colnet, as physician, and Thomas Morestede, as surgeon, accompanied the King in his expedition into France. The pay of each of these officers was 1*s.* a day and a bodyguard of three archers. As a security for this payment Colnet and Morestede were allowed to take with them certain valuable jewels belonging to the King. Morestede took with him 12 assistants, who each received 6*d.* a day. He was also supplied by the King before starting with a sum of money to provide a suitable equipment. Further, he was provided with a "chariot, two waggons, and two sumpter horses." Morestede was present at the battle of Agincourt, where he and his assistants must have found abundant scope for their energies, for the casualties were enormous. The casualties on the English side are not known, but the mortality among the French is said to have exceeded 11,000. Morestede's medical colleague must also have had his hands full, for the English troops suffered badly from dysentery. The war over, Morestede returned to London and took an active part in the Surgeons' Guild. He became wealthy and added an aisle to St. Olave's Church, Jewry, where he was buried.

THE DEARER LOAF.

To the Editor of THE LANCET.

SIR,—As you so truly say in the leading article in your issue of Jan. 30th that nourishing bread is of the utmost importance to "the extreme poor, often limited, sadly enough, to bread with butter or jam," I venture to direct attention to the advantages of wholemeal ground to a uniform fineness, so that the digestive juices can surround the particles and extract their nutriment. The Bread and Food Reform League has emphasised the importance of this subject for over 30 years, and has also advocated that, when finely ground wholemeal and wheatmeal (a grade from which a little of the coarse bran has been removed) cannot be assimilated, it is advisable to encourage the use of household flour containing the maximum nutriment of the wheat grain that can be obtained with a smaller amount of indigestible woody fibre. The league especially advises the retention of the "germ" and the strong gluten, found in flours commercially designated "patents," which are now abstracted and used for expensive breads.

Recent scientific investigations prove that serious disease is produced by minute alterations in foodstuffs, and that the vitamines found in wholemeal, wheatmeal, and old-fashioned household flour, but removed from fine white flour, are most important elements of nutrition when bread forms the principal food. As practical experience shows the beneficial results secured by the use of these breads when genuine I venture to hope that your readers will most kindly encourage their adoption and thus help to promote the healthy nutrition of the people.

I am, Sir, yours faithfully,
MAY YATES,
Honorary Secretary, Bread and Food Reform League.
5, Clement's Inn, London, W.C., Feb. 1st, 1915.

THE CENTRAL COMMITTEE FOR NATIONAL PATRIOTIC ORGANISATIONS.

THE task laid out for itself by this committee seems in every way worthy of vigorous support. It is that of stimulating and instructing public opinion throughout the country in respect of the causes and objects of the war, of arousing the nation to a sense of its danger, and keeping it alive, for the great driving power of public opinion, upon which ultimately the end of the war will depend, must not be left to shift with the temporary dominance of various temperaments or the changing fortunes of war. Any weakening or wavering or a patched-up truce would only expose our children under far more disadvantageous circumstances to the rule and methods of a ruthless militarism that is a standing menace to civilisation, democracy, and liberty throughout the world. Another portion of the committee's work consists in translating into the languages of the respective neutral countries the full evidence on which the Allied case rests and taking measures for its circulation therein. The president of the committee is Mr. Asquith, and the

vice-presidents are Lord Rosebery and Mr. A. J. Balfour. Contributions or offers of other assistance should be made to the secretary, the Central Committee, Canadian Pacific Building, 62, Charing Cross, W.C., from whom also further information can be obtained.

POPULAR MEDICINE IN GERMANY.

To the Editor of THE LANCET.

SIR,—In reference to your remarks on Father Kneipp's book, published under this heading last week, I may call the attention of your readers to Rehm's "Allerlei," published in Ulm in 1806. Rehm was a Prussian and Polizeidirektor, and his book therefore is marked by a Protestant rationality, in strange contrast to the Rev. Father's romantic note. It is interesting to compare his work, however, with such books as the Scottish "Tippermalluch's Receipts" and the English "One Thousand Notable Things," which were popular domestic medicine books of the latter end of the eighteenth century. Rehm, it must be confessed, contains very little quaint folklore as do Tippermalluch and the English chap-book. There is nothing in his pages to remind one of the medicinal stones mentioned in the Scandinavian mythology. Nor do cannibalism and charms here appear. But the pharmacopœia of Rehm is evidently traditional. Against the tape-worm he proceeds as he might against a dragon. An immense tripartite dose is given to the patient. It comes traditionally from Leibarzt Vogler, "of blessed memory." The worm is expelled seriatim at intervals of an hour or so, and the first dose is composed of quicksilver and pounded shells. A paste made of the yolk of an egg mixed with pounded sal ammoniac is recommended as a remedy for cataract. Oil of spurry (spergula) is stated to be a sovran remedy for hæmorrhage of the lungs, and it is noted that cattle feed and grow fat upon it, while it increases the wool-bearing capacities of sheep. Certain harmless directions are given for the treatment of epilepsy, and it is noted that the disease is popularly supposed to reside in the thumbs, whence the vulgar are always anxious to keep the patient's thumbs from being bent in upon the palms of his hands. A barbaric way of keeping fish fresh in winter is to pack them in snow, which benumbs but does not kill them—at least, this is Rehm's experience. Curious side-lights such as this are thrown on the life of the times. For instance, a story is told of the shooting of a mad dog, the fat of which was at once sold to a druggist for some reason or other. The deaths of dogs and even human beings are often attributed to the bite of flies that have escaped from fly-papers. Frost-bite is frequently mentioned, and it is cured by medication rather than by the application of snow. The juice of potatoes is used as a substitute for soap, and bread made of the same tuber is described and lauded as an article of diet.

Reading this book, we feel that we are in a primitive kindly world of peasants, scarcely in a savage one, still less in one that would adumbrate the latter-day Prussian.

I am, Sir, yours faithfully,

Feb. 2nd, 1915. BOOKWORM.

A SWEDISH REMEDY FOR FROST-BITE.

WE have received from Mr. Edward Edwin, of 39, Beauchamp-road, Lavender Hill, London, S.W., samples of an ointment called "Vetterin," which he states has been used for years with the greatest success in Sweden for the treatment of frost-bite. Mr. Edwin quotes a number of letters from Swedish medical men which speak so confidently about the merits of this preparation as to make it well worthy a trial elsewhere than in Sweden.

THE LESION IN TETANUS.

To the Editor of THE LANCET.

SIR,—I have read in THE LANCET of Jan. 2nd, p. 17, a report of the successful treatment of tetanus in a case having the remarkably short incubative period of two days. There is nothing in the report showing at all conclusively that the condition arose from abrasion of the hip, protected as it must have been by clothing; and as the percentage of recovery in tetanus is increased as the incubation period is lengthened—recovery in five-day incubation cases being rare even under massive doses of antitetanic serum—is it not well to assume the existence of some trivial lesion, oral, intestinal, &c., acting as a nidus for the infection, rather than accept a recent, absolutely superficial injury as the field of ultra virulent infection?

I am, Sir, yours faithfully,

THOS. B. ROGERS, D.V.S.

Woodbury, N.J., Jan. 17th, 1915.

Cheval.—The very small average of six miles a day would not appear to justify, financially speaking, the keeping of a car, unless our correspondent has a place attached to his house where he can keep it, and has the intention of extending the sphere of his operations. If he will tell us the cost of his present system of hiring a brougham, whether he would drive a car himself, and where he would keep it, we shall be better able to advise him. He could probably get a booklet on the subject of the running cost from Messrs. De Dion Bouton, 10, Great Marlborough-street, London, W.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Papers:—Dr. D. H. Scott: Lepidostrobus Kentuckiensis, formerly Lepidostrobus Fischeri. Scott and Jeffrey—A Correction.—Mr. T. Lewis and Mr. M. A. Rothschild: The Excitatory Process in the Dog's Heart. Part II., The Ventricles (communicated by Prof. E. H. Starling).—Mr. A. J. Walton: On the Variation in the Growth of Mammalian Tissue in Vitro according to the Age of the Animal (communicated by Prof. W. Bulloch).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries—Thomas H. Kellock, David Forsyth): at 8 P.M.

Cases:

Mr. H. Morriston Davies: (1) Bronchiectasis treated by Ligature of the Branch of the Pulmonary Artery; (2) Mediastinal Teratoma—Result of Operations on; (3) Osteitis Fibrosa Cystica of the Femur.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on Gunshot Wounds of the Head (introduced by Sir Victor Horsley). Followed by Sir David Ferrier, Mr. R. Warren, Mr. W. H. Jessop, Mr. L. B. Rawling, and others.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, Lecture Theatre of the Society, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Communications from the Society's Research Laboratories:—Prof. H. Ll. Smith: Acetylsalicylic Acid.—Prof. H. G. Greenish and Mr. A. E. Beesley: Discolouration of Sodium Salicylate in Solution by Alkalines.

HUNTERIAN SOCIETY. Barbers' Hall, Monkwell-street, E.C.

WEDNESDAY.—9 P.M., Annual Oration:—Dr. H. R. Andrews: William Hunter's Work on Midwifery.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, Wandsworth Common, S.W.

WEDNESDAY—9 P.M, Dr. A. F. Hertz: Flatulence.

CHILD STUDY SOCIETY LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—6 P.M., Lecture:—Dr. C. W. Kimmins: With the British Association in Australia.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 12 noon, Lecture: Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. J. B. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). X Rays and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).
WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. H. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe); 4.30 P.M., Clinical Demonstration:—Dr. R. M. Leslie: Selected Medical Cases.
FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. H. Gillespie); Eye (Mr. R. P. Brooks).

THE THROAT HOSPITAL, Golden-square, W.
MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.
TUESDAY.—4 P.M., Dr. J. L. Bunch: Some Common Skin Diseases.
THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Fungus Diseases of Skin and Hair.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.
TUESDAY.—3 P.M., Prof. C. S. Sherrington: Muscle in the Service of Nerve. (Lecture III.)
THURSDAY.—3 P.M., Dr. P. C. Mitchell: Zoological Studies: War and Evolution—Nations as Species. (Lecture I.)
FRIDAY.—9 P.M., Dr. W. S. Bruce: Recent Advances in Oceanography.

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W.
TUESDAY.—7.30 P.M., Discussion on Tall *versus* Short Men for the Army (opened by Dr. M. S. Pembrey).

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.
THURSDAY.—ANCOATS HOSPITAL, Mill-street.—4.30 P.M., Dr. A. Renshaw: Vaccine Treatment of Respiratory Diseases.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1914 were given in THE LANCET of Dec. 26th, 1914.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs. 50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 3rd, 1915.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 28	29·63	N.E.	...	43	38	34	32	35	Overcast
,, 29	29·72	N.E.	...	53	40	35	32	35	Overcast
,, 30	29·94	S.W.	...	44	40	35	36	38	Overcast
,, 31	29·54	W.	...	52	44	38	39	41	Cloudy
Feb. 1	29·93	W.	0·14	59	49	38	37	39	Cloudy
,, 2	29·31	S.W.	0·20	53	51	39	48	49	Raining
,, 3	29·89	S.W.	...	58	50	41	43	45	Cloudy

The following magazines, journals, &c., have been received:—Interstate Medical Journal, American Journal of Tropical Diseases and Preventive Medicine, Medical Review of Reviews, Indian Medical Journal, British Review, Homœopathic Recorder, Practitioner, Journal of State Medicine, Journal of Pathology and Bacteriology, Bulletin of the Johns Hopkins Hospital, Dominion Medical Monthly, Journal of the Royal Sanitary Institute, British Journal of Dental Science, &c.

Communications, Letters, &c., have been received from—

A.—Mr. C. A. Achner, Lond.; Dr. J. Atkinson; Dr. Auregan, Lannion; Mr. Oswald Addison, Lond.; Messrs. R. Anderson and Co., Lond.; Messrs. C. Ash, Sons, and Co., Lond.; Messrs. Allen and Hanburys, Lond.; Ardath Tobacco Co., Lond.

B.—Mr. W. H. Bird, Torquay; Sir John Byers, Belfast; Bristol Royal Infirmary, Secretary of; Messrs. Burgersdijk and Niermans, Leiden; Mrs. Cloudesley Brereton, Lond.; Birkenhead Borough Hospital, Secretary of; Bristol General Hospital, Secretary of; Messrs. Butterworth and Co., Lond.; Mr. H. Bennett, Caerews; Messrs. J. Beal and Son, Brighton; Blackburn, &c., Royal Infirmary, Secretary of; Bread and Food Reform League, Lond., Hon. Secretary of; Mr. G. L. Bannerman, Lond.; Dr. W. Ironside Bruce, Lond.; Dr. H. E. Bond, Kingston, Jamaica; Messrs. Charles Barker and Sons, Lond.; Dr. S. N. Bruce, Lond.; Drs. Bunts, Crile, and Lower, Cleveland; *Boston Medical and Surgical Journal*, Manager of; Messrs. W. H. Bailey and Son, Lond.; Mr. H. Blakeway, Lond.

C.—Mr. S. Forrest Cowell, Lond.; Mr. Ewart G. Culpin, Lond.; Chadwick Trust, Lond., Secretary of; *Chemical World*, Lond., Publisher of; Child Study Society, Lond., Hon. Secretary of; Messrs. J. and A. Carter, Lond.; Messrs. G. Curling, Wyman, and Co., Lond.; Mr. P. C. Coombes, Knapp Hill; Captain T. J. Crean, V.C., France; Dr. H. F. Comyn, Surbiton; Central Committee for National Patriotic Organisations, Lond.; Captain Walter G. H. Cable, R.A.M.C., Hastings

[*Acknowledgments continued on next page.*

Dr. Charles W. Chapman, Lond.; Dr. S. D. Clippingdale, Lond.; Professor Hastings Crossley, Eastbourne; Messrs. J. and A. Churchill, Lond.; Lieutenant-Colonel S. Monckton Copeman, R.A.M.C.(T.).

D.—Mr. A. J. Davy, Lond.; Lieutenant M. Donaldson, R.A.M.C., Havre; Professor Sheridan Delépine, Manchester; Dr. Vincent Dickinson, Lond.; Dumfries and Galloway Royal Infirmary, Treasurer of; Domestic Servants' Insurance Society, Lond., Secretary of; Sir Bryan Donkin, Lond.; Sir J. M. Davidson, Lond.; Messrs. Dawson and Sons, Lond.; Derbyshire County Council, Derby, Medical Officer of Health to the; Mr. H. Dickinson, Lond.

E.—Dr. William Ewart, Lond.; Dr. M. Eder, Lond.; Eclectic Medical University, Kansas City; Dr. F. W. Edridge-Green, Lond.; East London Hospital for Children, Secretary of.

F.—Major E. Finch, R.A.M.C., Sheffield; Messrs. Fannin and Co., Dublin.

G.—Mr. H. Ginn, Worcester; Mr. V. G. Gibbs, Hull; Mr. H. N. Gilbey, Lond.; Great Yarmouth Hospital, Secretary of; Captain B. Gale, I.M.S., Brighton; Guest Hospital, Dudley, Secretary of; Dr. A. J. Gregory, Westcliff; Mr. P. O. Gill, Exmouth.

H.—Hunterian Society, Lond.; Miss J. Halford, Lond.; Mr. J. Hatton, Bath; Mr. John Hampson, Lond.; Dr. W. E. Heilborn, Bradford; Dr. A. C. Hartley, Nairn; Dr. C. O. Hawthorne, Lond.; Messrs. Melbourne Hart and Co., Lond.; Professor R. Tanner Hewlett, Lond.; Dr. Walter Haward, Lond.; Hampstead General and North-West London Hospital, Secretary of; Messrs. C. J. Hewlett and Son, Lond.

J.—Miss E. M. James, Lond.; Dr. E. T. Jenson, Lond.; J. C.; Major A. E. Johnson, R.A.M.C., Lond.; Captain P.A. Lloyd Jones, R.A.M.C., France; Mrs. Walter Johnson, Holyhead; Messrs. Jepson Brothers and Co., Lond.

K.—Rt. Hon. Lord Knutsford, Lond.

L.—Dr. R. Bruce Low, Lond.; Dr. C. E. Lea, Manchester; Mr. E. Muirhead Little, Lond.; Local Government Board, Lond.; Leicester Education Committee, Secretary of; Rai Bahadur Kanoujl Lal, Lucknow; Messrs. Lee and Nightingale, Liverpool; Dr. J. C. G. Ledingham, Lond.; Leeds University, Dean of; Dr. J. Oswald Lane, Hereford; Mr. H. K. Lewis, Lond.; *Lincolnshire Chronicle*, Lincoln, Manager of; Mr. Lockhart-Mummery, Lond.; The Right Hon. the Lord Mayor, Lond.; Dr. J. Wickham Legg, Oxford; Liverpool Corporation, Superintendent of Stationery Department.

M.—Dr. Hector Mackenzie, Lond.; Mr. John D. Marshall, Lond.; Dr. Menciére, Compiègne; Mr. H. Mills, Llantwit; Medical Agency, Lond.; *Medical Journal of Australia*, Sydney, Editor of; Mr. Walter J. Matthews, Bristol; Messrs. C. Mitchell and Co., Lond.; Manchester Corporation, Medical Officer of Health of; Dr. Hugh Munro, Lond.; Mr. J. F. Mackenzie, Edinburgh; Mr. Ernest Marshall, Lond.; Captain A. Mowat, Inverness; Captain J. F. MacMillan, Sandown; Dr. J. A. Murray, Lond.; Messrs. Z. P. Maruya and Co., Tokyo; Dr. Alexander Morison, Lond.; Captain C. S. Myers, R.A.M.C.(T.), Le Touquet; Dr. T. Davys Manning, Weymouth; Dr. James Munday, Kurseong.

N.—Mr. F. Newland-Pedley, Lond.; Dr. F. M. Neild, Shanghai; National Association for the Prevention of Infant Mortality, Secretary of; Nottingham General Hospital, Secretary of; Newcastle-upon-Tyne Corporation, Medical Officer of Health to the; Dr. A. B. Norman, Oakham.

O.—Dr. George Ogilvy, Lond.; Our Dumb Friends' League, Lond., Secretary of; Messrs. Oppenheimer, Sons, and Co., Lond.; Mr. H. H. Olcott, Boston, U.S.A.; Oldham Royal Infirmary, Secretary of.

P.—Mr. A. E. Hayward Pinch, Lond.; Pharmaceutical Society of Great Britain, Secretary of; Dr. L. H. Pegler, Lond.; Press Etching Co., Lond.; *Punch* Office, Lond.

R.—Royal Academy of Medicine in Ireland, Dublin; Mr. Thos. B. Rogers, Woodburn, N.J.; Royal Institution of Great Britain, Lond.; Royal Waterloo Hospital for Children and Women, Lond., Secretary of; Royal Buckinghamshire Hospital, Aylesbury, Secretary of; Royal College of Surgeons of England, Lond., Secretary of; Royal Surrey County Hospital, Guildford, Secretary of; *Red Cross News*, Glasgow, Editor of; Mr. J. Reid, Edinburgh; Royal Society, Lond.; Royal Society of Arts, Lond.; Royal Sanitary Institute, Lond., Secretary of.

S.—Dr. J. D. Shapland, Lond.; Mr. J. C. Segrue, Lond.; Salford Royal Hospital, Secretary of; Swansea Guardians, Clerk to the; Raja Sir H. Singh, Jullundur City; Mr. B. Singh, Skardu; St. Mary's Hospital for Women and Children, Lond., Secretary of; St. Mary's Hospitals for Women and Children, Manchester, Secretary of; Mr. W. Stuart-Low, Lond.; St Andrew's Hospital, Lond., Secretary of; Stoke-on-Trent Education Committee, Secretary of; Sheffield Royal Hospital, Secretary of; Sheffield Royal Infirmary, Secretary of; Messrs. Squire and Sons, Lond.; Mr. T. Strain, Hounslow; Mrs. Sharp, Lond.; St. John's Hospital, Lond., Secretary of; Mr. W. B. Saw, Lond.; Springfield State Hospital, Sykesville, Superintendent of; Sheffield Children's Hospital, Secretary of.

T.—Dr. Makoto Takahashi, Lond.; Dr. H. N. Taylor, Ebbw Vale; Dr. F. Taylor, Lond.; Messrs. C. Tuckey and Co., Lond.; Dr. F. W. Tunnicliffe, Lond.; Dr. Seymour Taylor, Lond.

V.—Victoria Hospital, Burnley, Secretary of; Verkehrverein, Davos; V. G. A.

W.—Mr. G. H. Whale, Lond.; Dr Lennox Wainwright, Folkestone; Messrs. Whitehead, Morris and Co., Lond.; Women's Industrial Council, Lond.; Workers' Educational Association, Lond., Secretary of; Mr. James Williamson, York; *Western Daily Mercury*, Plymouth, Proprietors of; Dr. James Watt, Wartle; Messrs. J. Woodhead and Sons, Huddersfield; Deputy Surgeon-General A. Gascoigne Wilder, R.N.; Lieutenant Beckwith Whitehouse, R.A.M.C., Rouen; Captain H. L. Whale, R.A.M.C., Lond.; Messrs. J. Williams and Son, Bradford; Dr. D. G. Wishart, Edinburgh; Major Cuthbert Wallace, R.A.M.C.

Letters, each with enclosure, are also acknowledged from—

A.—Miss A. Althaus, St. Leonards-on-Sea; Ancoats Hospital, Manchester, Secretary of; Dr. M. da R. Amoum, Entre-os-Rios; Lieutenant-Colonel H. C. L. Arnim, I.M.S., Lond.

B.—Mr. F. F. Burghard, Lond.; Mr. J. B. Brash, Birmingham; Birkenhead and Wirral Children's Hospital, Secretary of; Mr. W. K. Brewer, Lond.; Dr. C. G. S. Baronsfeather, Pakhoi; Mr. W. Bryce, Edinburgh; Dr. J. H. Bendle, Bath; Mr. P. Baker, Lond.; Bayer Co., Lond.; Dr. G. T. Beatton, Caversham; British Oxygen Co., Lond.; Mr. E. Blatchley, Lond.; Dr. W. Langdon Brown, Lond.; Mr. T. H. C. Benians, Lond.; Barnwood House Hospital, Gloucester, Medical Superintendent of; Messrs. Bennett Bros., Salisbury; Dr. R. M. Buchanan, Glasgow; Blackburn Guardians, Clerk to the; Dr. N. W. Bourns, Lond.

C.—Dr. F. R. Cosgrave, Burton; Messrs. Carnrick and Co., Lond.; Chester Corporation, Accountant to the; Dr. H. B. Christensen, New Westminster, Canada; Corbett Estate Office, Droitwich; Dr. H. W. Crowe, Yelverton; Church Army, Lond., Secretary of; Dr. E. H. Colbeck, Lond.; Cheltenham General Hospital, Secretary of; Croydon Corporation, Accountant to the; Mr. O. G. Connell, St. Albans; Dr. A. R. Carmichael, Liverpool; Dr. J. A. Clark, Chicago; Dr. C. Chaplin, Angmering; Messrs. Cargills, Glasgow.

D.—Messrs. F. Davidson and Co., Lond.; Durham County Council, Accountant to the; Dorland Agency, Lond.; Mr. W. Donaldson, Flotta; Mr. H. M. Davies, Lond.; Mr. T. N. Darling, Pau; Messrs. Duncan, Flockhart, and Co., Edinburgh; Mr. A. E. Dale, Lond.; Mr. R. Dunstan, Paignton.

E.—Dr. W. H. Evans, Cardiff; Mr. G. W. Eglinton, Street; Miss Eskholme, Rotherham; Messrs. W. and T. Evans, Cork; Messrs. Elliott, Son, and Boyton, Lond.

F.—Dr. A. Fleming, Corstorphine; Mr. R. F. Flood, Bundoran; Fellows Medical Manufacturing Co., New York; Miss Fox, Lond.; Mr. J. M. Forbes, Mountain Ash; Fife District Asylum, Cupar, Clerk to the; Mr. H. Frowde, Lond.

G.—Rev. J. W. Gardner, Greenock; Gloucester County Asylum, Clerk to the; Gloucestershire Royal Infirmary, Gloucester, Secretary of; Lieutenant-Colonel J. W. Grant, I.M.S., Brighton; Messrs. Gale and Co., Lond.; Galen Manufacturing Co., Lond.; Dr. C. G. Gibson, Launceston; Dr. Gordon-Munn, Norwich; Dr. Major Greenwood, Lond.; General Life Assurance Co., Lond.; Dr. A. F. Galloway, Lond.; Sir Rickman Godlee, Bart., Lond.; Dr. Greene, Gerrard's Cross; Dr. J. Geoghegan, Turk's Island.

H.—Mr. T. C. Howard, Letchworth; Messrs. J. Haddon and Co., Lond.; Mr. W. L. Hampton, Perth; Messrs. Hawksley and Son, Lond.; H., Lond.; Messrs. T. Holland and Son, Lond.; Messrs. Hogg and Son, Lond.; Dr. J. Hunter, Invercargill; Captain T. A. Hughes, I.M.S., Bannu; Major T. Hunter, I.M.S., Moradabad; Mrs. H., Lond.; Mr. J. J. Hemming, Margate; Dr. A. C. Hartley, Nairn; Mr. R. Holton, Hednesford; Hospitals and General Contracts Co., Lond.

I.—Messrs. Ingram and Bell, Toronto.

J.—Dr. W. Jackson, Nelson; J. D. J.

K.—Messrs. H. S. King and Co., Lond.; King Edward VII. Hospital, Cardiff, Secretary of; Mr. W. S. Kerr, Sheffield; King Edward VII. Sanatorium, Midhurst, Secretary of; Messrs. P. S. King and Co., Lond.; Dr. W. Kirkpatrick, Stourbridge; Kreochyle Co., Lond.; Mr. R. M. Kharegat, Lond.

L.—Dr. J. Leishman, Slough; Liverpool Medical Institution, Secretary of; Leicester Royal Infirmary, Secretary of; Liverpool Corporation, Treasurer to the; Mr. T. S. Logan, Stone; Leeds General Infirmary, Secretary of; Liverpool Royal Infirmary, Secretary of; Mr. F. W. Langridge, Ilfracombe; Leeds Hospital for Women, &c., Secretary of; Mr. H. Le Soudier, Paris; Messrs. Lee and Martin, Birmingham; Lightburn Hospital, Glasgow, Treasurer to the.

M.—Dr. A. MacConkey, Elstree; Maltine Manufacturing Co., Lond.; Messrs. Mather and Crowther, Lond.; Manchester Corporation, Treasurer to the; Mr. P. M. Moriarty, Dingle; Dr. W. H. Miller, Edinburgh; Mr. R. Miyake, Okayama; Dr. N. Malouf, Kassala; Mr. J. E. May, Lond.; Messrs. McAinish and Co., Toronto; Manchester Royal Infirmary, Secretary of; Sir Berkeley Moynihan, Leeds; Dr. M. J. Menzies, Edinburgh; Dr. Justin McC. McCarthy, St. George's, Salop; Dr. J. E. Milne, Aberdeen; Dr. R. H. Morrison, Melbourne; Dr. A. E. Morison, Sunderland.

N.—Northampton County Asylum, Clerk to the; Newcastle-on-Tyne Corporation, Accountant to the; Nottinghamshire County Council, Nottingham, Clerk to the; Northampton Corporation, Clerk to the; Nottingham General Dispensary, Secretary of.

O.—Dr. C. M. O'Brien, Dublin; Dr. E. R. Orchard, Kingussie; Messrs. Osborne Peacock Co., Manchester; Mrs. Owen, Isleworth; Messrs. Orrock and Sons, Edinburgh.

P.—Dr. A. B. Ples, Sitoebondo; Pearson's Antiseptic Co., Lond.; Portsmouth Corporation, Accountant to the; Mr. D. Pettigrew, Sheffield; Colonel Perkins, Windsor.

R.—Dr. J. W. Rodgers, Dorking; Messrs. Raimes and Co., York; Mr. C. Riedinge, Paris; Dr. R.; Dr. John Russell, Scarborough; Mr. F. Rawlings, Manchester; Registered Nurses' Society, Lond., Secretary of; Messrs. Robinson and Sons, Chesterfield; Dr. J. B. Ridley, Croydon; Royal Portsmouth Hospital, Secretary of; Royal Eastern Counties Institution, Colchester, Secretary of; Dr. R. M. Rowe, Lond.; Dr. T. F. Ryan, Nhill.

S.—Mr. W. E. Roper Saunders, Newcastle-on-Tyne; Stoke-on-Trent County Borough, Accountant to the; Sheffield Education Committee, Secretary of; St. John Ambulance Association, Lond.; St. George's Hospital Medical School, Lond., Secretary of; Messrs. Spiers and Pond, Lond.; Dr. W. M. Scott, Sittingbourne; Salop County Council, Shrewsbury, Accountant to the; Salford Royal Hospital, Secretary of; Société Européenne de Publicité, Paris; Mr. B. Scott, Sway; St. Andrew's Hospital, Northampton, Clerk to the; Stirling District Asylum, Larbert, Clerk to the; Mr. J. P. Sharples, Wye; Messrs. W. H. Smith and Son, Lond.; Dr. W. Shipton, Buxton; Mr. L. Scudamore, Abertysswg; South Shields Guardians, Clerk to the; Mr. A. N. Sen, Calcutta.

T.—Staff-Surgeon D. D. Turner, R.N., Lond.; Mr. H. G. Terry, Bath; Mrs. Tudhope, Glasgow.

V.—Messrs. Van Houten, Lond.; Victoria, British Columbia, Treasurer of the Provincial Department; Victoria Children's Hospital, Hull, Secretary of.

W.—Warrington Infirmary, &c., Secretary of; Wolverhampton, &c., General Hospital, Secretary of; Fleet-Surgeon E. C. Ward, R.N., Chatham; The Warneford, Oxford; Willesden Urban District Council, Clerk to the; Woodilee Asylum, Glasgow, Steward of; Dr. A. C. Wilson, Portsmouth; West Sussex County Council, Worthing, Clerk to the; Messrs. J. Wright and Sons, Bristol; Mr. T. Wyse, West Malling; Mr. W. A. Ward, Richmond; Walsall and District Hospital, Secretary of; Worksop Victoria Hospital, Secretary of; Dr. W.; Wilts County Council Education Committee, Trowbridge, Treasurer to the; Dr. J. H. Whiteside, Kilham.

Y.—Yost Typewriter Co., Lond.; Mrs. Burney Yeo, Lond.